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Service Manual

ORDER NO.
ARP3467

PLASMA TELEVISION

PDP-428XG
PDP-428XDA
PDP-428XC

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-428XG	DLFT	AC 110 V to 240 V	
PDP-428XDA	YP	AC 240 V	
PDP-428XC	WA5	AC 220 V to 240 V	

This service manual should be used together with the following manual(s):

Model	Order No.	Remarks
PDP-4280XA/WYV5	ARP3441	EXPLODED VIEWS, BLOCK DIAGRAM, ADJUSTMENT, etc

For SPECIFICATIONS and PANEL FACILITIES, refer to the operating instructions.

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1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*
- *Nos. indicate the pages and Nos. in the service manual for the base model.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560Ω → 56×10^1 → 561 .... RD1/4PU$\boxed{5}\boxed{6}\boxed{1}$J
47kΩ → 47×10^3 → 473 .... RD1/4PU$\boxed{4}\boxed{7}\boxed{3}$J
0.5Ω → R50 .... RN2H$\boxed{R}\boxed{5}\boxed{0}$K
1Ω → 1R0 .... RS1P$\boxed{1}\boxed{R}\boxed{0}$K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ → 562×10^1 → 5621 .... RN1/4PC$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

CONTRAST TABLE

PDP-428XD/WYV5, PDP-428XG/DLFT, PDP-428XDA/YP and PDP-428XC/WA5 are constructed the same except for the following:

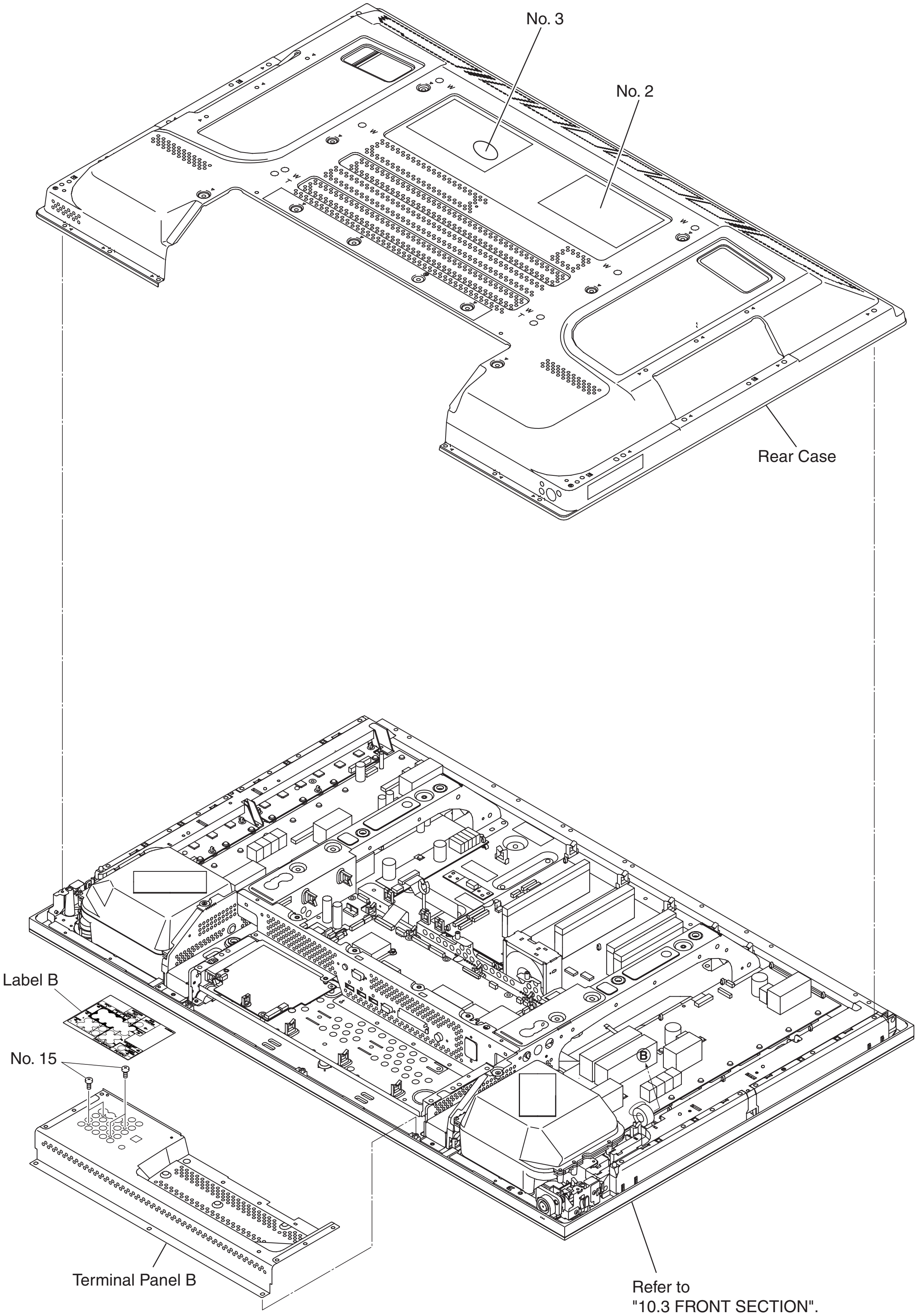
Mark	No.	Symbol and Description	PDP-428XD /WYV5	PDP-428XG /DLFT	PDP-428XDA /YP	PDP-428XC /WA5	Remarks
		PCB ASSEMBLIES					
	P175-1	MAIN Assy	AWV2461	AWV2465	AWV2465	AWV2466	
NSP		1..FUKUGO Assy	AWV2480	AWV2490	AWV2488	AWV2490	
	P175-2	2..TANSHI ASSY	AWW1247	AWW1257	AWW1255	AWW1257	
	P165-1	2..SIDE IO ASSY	AWW1253	AWW1259	AWW1259	AWW1259	
	P175-3	2..232C ASSY	AWW1254	Not used	Not used	Not used	
NSP		1..42 DIGITAL ASSY	AWV2450	AWV2534	AWV2534	AWV2534	
	P171-3	2..42 DIGITAL ASSY	AWW1271	AWW1338	AWW1338	AWW1338	
		DTV TUNER BOARD	Not used	Not used	AXY1170	Not used	*1 No. 1
		PACKING SECTION					
⚠	P163-1	Power Cord (2 m)	ADG1214	Not used	ADG1245	ADG1209	
	P163-3	Remote Control Unit	AXD1551	AXD1554	AXD1555	AXD1556	
NSP	P163-5	Dry Cell Battery (R06, AA)	VEM1031	AEX1025	VEM1031	VEM1031	
	P163-9	Operating Instructions (English/French/German)	ARE1484	Not used	Not used	Not used	
	P163-10	Operating Instructions (Italian/Spanish/Dutch)	ARC1601	Not used	Not used	Not used	
	P163-11	Caution Card	ARM1232	ARM1232	ARM1232	Not used	
NSP	P163-13	Warranty Card	ARY1204	Not used	ARY1192	ARY1161	
	P163-14	Polyethylene Bag	AHG1337	AHG1337	AHG1336	AHG1336	
NSP	P163-15	Catalogue Bag	AHG1340	Not used	Not used	AHG1340	
	P163-21	Power Cord Lid	AHC1085	AHC1085	Not used	Not used	
	P163-23	Upper Carton	AHD3647	AHD3596	AHD3597	AHD3598	
	P163-25	After Image Caution	ARM1350	Not used	Not used	Not used	
		Operating Instructions (Simp-Chinese)	Not used	Not used	Not used	ARC1581	
		Operating Instructions (English)	Not used	Not used	ARB1577	Not used	
		Operating Instructions (English/Spanish/Portuguese /Trad-Chinese)	Not used	ARE1479	Not used	Not used	
⚠NSP		Power Cord	Not used	ADG1232	Not used	Not used	
⚠NSP		Power Cord	Not used	ADG1234	Not used	Not used	
⚠NSP		Power Cord	Not used	ADG1236	Not used	Not used	
⚠NSP		Power Cord	Not used	ADG1239	Not used	Not used	
⚠NSP		Power Cord	Not used	ADG1241	Not used	Not used	
⚠NSP		Power Cord	Not used	ADG1242	Not used	Not used	
⚠NSP		Power Cord	Not used	ADG1243	Not used	Not used	

Mark	No.	Symbol and Description	PDP-428XD /WYV5	PDP-428XG /DLFT	PDP-428XDA /YP	PDP-428XC /WA5	Remarks
⚠NSP		Power Cord	Not used	ADG1244	Not used	Not used	
⚠NSP		Power Cord	Not used	ADG1246	Not used	Not used	
⚠NSP		Power Cord Assy	Not used	AWX1095	Not used	Not used	
		PAL RF Cable(30cm)	Not used	Not used	ADF1036	Not used	
		Caution Card (PC)	Not used	Not used	Not used	ARM1302	
		REAR SECTION					
NSP	P165-19	Name Label	AAL3006	AAL3010	AAL3015	AAL3013	
	P165-20	Bolt Caution Label (E)	AAX3533	AAX3533	AAX3533	AAX3550	
	P165-22	Label A	AAX3480	AAX3485	AAX3484	AAX3485	
	P165-23	Label B	AAX3538	AAX3492	AAX3519	AAX3492	
	P165-24	Label C	AAX3504	AAX3507	AAX3521	AAX3507	
	P165-25	Terminal Panel B	ANC2449	ANC2451	ANC2451	ANC2451	
	P165-31	Input Cover Label	AAX3510	AAX3511	AAX3511	AAX3511	
	P165-42	Screw	BPZ30P080FTB	Not used	Not used	Not used	
		Destination Label	Not used	AAX3446	Not used	Not used	No. 2
NSP		CCC S&E Label	Not used	Not used	Not used	DRW2310	No. 3
		Screw	Not used	BBZ30P060FTB	BBZ30P060FTB	BBZ30P060FTB	No.15
		FRONT SECTION					
	P167-11	Front Case Assy	AMB3016	AMB3017	AMB3018	AMB3017	
		MULTI BASE SECTION					
	P175-7	Flexible Cable (J217)	ADD1494	Not used	Not used	Not used	
	P175-20	POD Cover	AMR3542	Not used	Not used	Not used	
	P175-21	Multi Base Assy	ANA2103	ANA2103	ANA2104	ANA2103	
	P175-22	Terminal Panel A	ANC2441	ANC2445	ANC2446	ANC2445	
		12P Housing Wire (J131)	Not used	Not used	ADX3549	Not used	No. 4
		Flexible Cable (J219)	Not used	Not used	ADD1450	Not used	No. 5
		Flexible Cable (J220)	Not used	Not used	ADD1497	Not used	No. 6
NSP		Bottom Can	Not used	Not used	XNA1005	Not used	No. 7
		Top Can	Not used	Not used	XNG1002	Not used	No. 8
		Screw	Not used	Not used	ABZ30P060FTC	Not used	No. 9
		Screw	Not used	Not used	BBZ30P060FTB	Not used	No. 10
		Screw	Not used	Not used	PMB30P080FNI	Not used	No. 11
		Gasket N	Not used	Not used	ANK1776	Not used	No. 12
		Frontend Holder G	Not used	ANG3120	Not used	ANG3120	No. 13
		Screw	Not used	AMZ30P060FTC	Not used	AMZ30P060FTC	No. 14

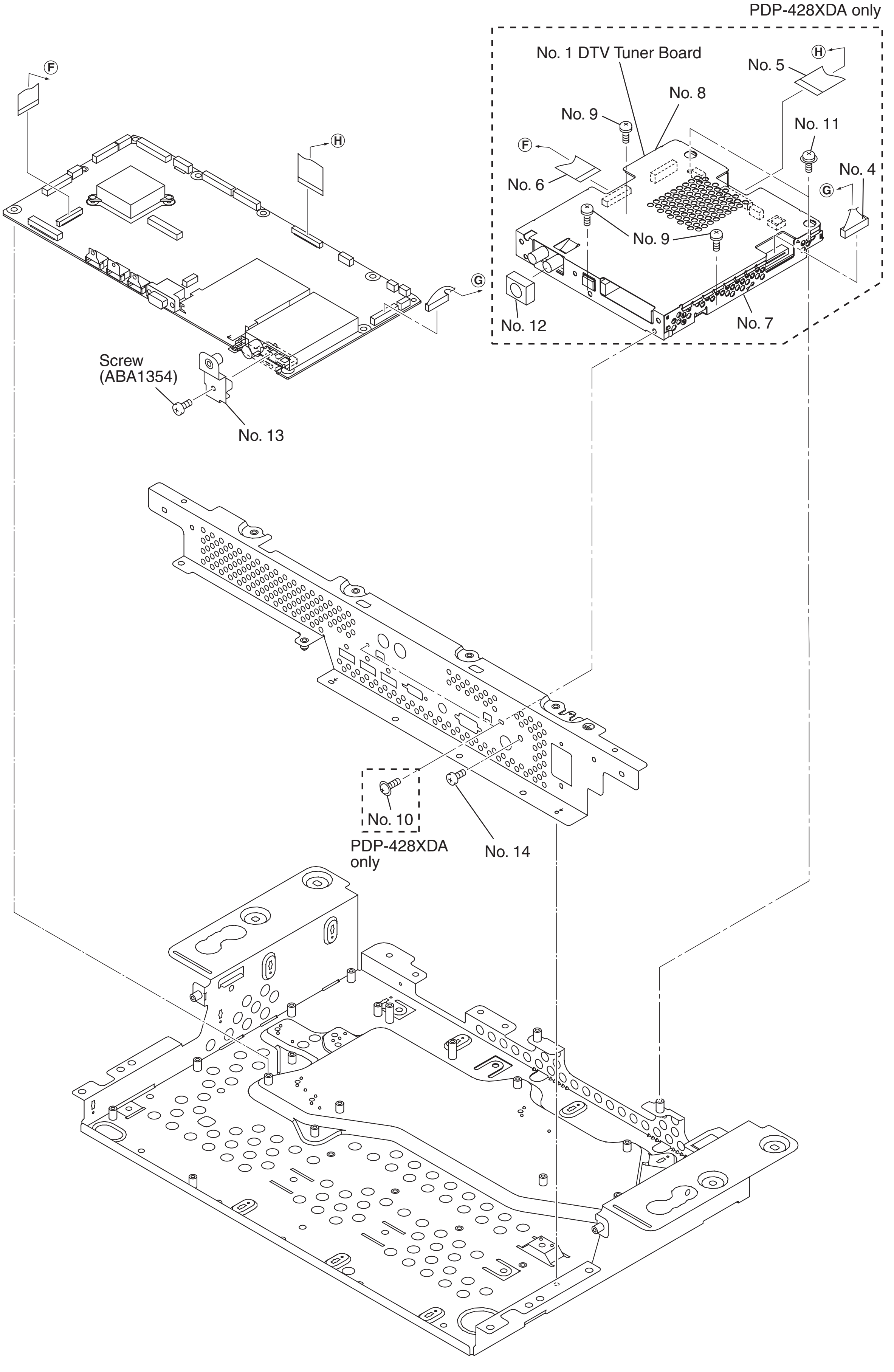
Notes : The numbers in the remarks column correspond to the numbers on the “EXPLODED VIEWS”.
For PCB ASSEMBLIES, Refer to “5. SCHEMATIC DIAGRAM” , “6. PCB CONNECTION DIAGRAM" and “7. PCB PARTS LIST”.
*1 : DTV TUNER BOARD has no service parts.

EXPLODED VIEWS

EXTERIOR (Rear Section)


No. 3
No. 2
Rear Case
Label B
No. 15
B
Terminal Panel B
Refer to
"10.3 FRONT SECTION".

EXTERIOR (Mult Base Section)


PDP-428XDA only
No. 1 DTV Tuner Board
No. 5
No. 8
No. 9
No. 11
No. 4
No. 6
No. 9
No. 12
No. 7
F
H
G
Screw
(ABA1354)
No. 13
No. 10
PDP-428XDA
only
No. 14

2. BASIC ITEMS FOR SERVICE

BASICS ITEMS FOR SERVICE of PDP-428XG/DLFT,PDP-428XDA/YP and PDP-428XC/WA5 is the same as PDP-4280XA/WYV5 except for the following:

2.1 QUICK REFERENCE

Quick Reference upon Service Visit ①
Notes, PD/SD diagnosis, and methods for various settings

Notes when visiting for service

1. Notes when disassembling/reassembling

① Rear case

When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "7. DISASSEMBLY".

② Attaching screws for the HDMI connector

When attaching the HDMI connector after replacing the Main Assy, secure the HDMI connector manually with a screwdriver, but not with an electric screwdriver. If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

2. On parts replacement

① How to discharge before replacing the Assys

A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:

A: Let the panel sit at least for 3 minutes after the power is turned off.
B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.

For details, see "5.6.1 PANEL DRIVE-POWER ON/OFF FUNCTION".

② On the settings after replacement of the Assys

Some boards need settings made after replacement of the Assys. For details, see "8. EACH SETTING AND ADJUSTMENT".

3. On various settings

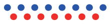
① Setting in Factory mode

After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

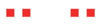
PD/SD			
	Item	No. of LEDs flashing	
		Red	Blue
Panel section	SQ_LSI		Blue 1
	Communication with the module IIC		Blue 2
	DIGITAL-RST2		Blue 3
	Panel high temperature		Blue 4
MTB section	Audio/ Short-circuit SP terminal		Blue 5
	Communication with the Module UCOM		Blue 6
	Main 3-wire serial communication		Blue 7
	Main IIC communication		Blue 8
	Communication with the Main UCOM		Blue 9
	FAN		Blue 10
	Unit high temperature		Blue 11
	Digital Tuner communication		Blue 12
	MTB-RST2/RST4		Blue 13
	Main EEPROM		Blue 15
POWER		Red 2	
SCAN		Red 3	
SCN-5V		Red 4	
Y-DRIVE		Red 5	
Y-DCDC		Red 6	
Y-SUS		Red 7	
ADRS		Red 8	
X-DRIVE		Red 9	
X-DCDC		Red 10	
X-SUS		Red 11	
DIG-DCDC		Red 12	
UNKNOWN		Red 15	

LED Display Information

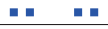
① Rewriting software



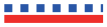
② PD (2-15)



③ SD (1-15)



④ No backup



This indication does not display all LED patterns.
For details, please refer to 5.1.1 LED DISPLAY INFORMATION.

How to locate several items on the Factory menu

{ } : Item on the Factory menu
[ ] : Key on the remote control unit
" " : Screen indication

1. Confirmation of accumulated power-on time and power-on count

Select {INFORMATION} then {HOUR METER}.
(After entering Factory mode, press [⬇] five times.)

2. Confirmation of the Power-down and Shutdown histories

① Panel system

PD: Select {PANEL FACTORY} then {POWER DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] three times.)

SD: Select {PANEL FACTORY} then {SHUT DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] four times.)

② MTB section

Select {INFORMATION} then {MAIN NG}.
(After entering Factory mode, press [⬇] three times.)

3. How to display the Mask indication

① Mask indication in the panel side

1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] 8 times.)
2. Press [ENTER/SET], then select a Mask indication, using [⬇] or [⬆].

Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

1. Digital Video Assy: Transfer of backup data

① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, then press [ENTER/SET].)
② Select {TRANSFER}, using [➡], then hold [ENTER/SET] pressed for at least 5 seconds.
③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

2. MAIN Assy: Execution of FINAL SETUP.

① Select {INITIALIZE} then {FINAL SETUP}, then press [ENTER/SET]. (After entering Factory mode, press [MUTING] three times, then press [⬇] four times.)
② Select "YES", using [➡]. Then hold [ENTER/SET] pressed for at least 5 seconds.
③ After "FINAL SETUP IS COMPLETE" is displayed on the screen, turn the POWER switch of the main unit off.

3. POWER SUPPLY Unit: Clearance of the accumulated power-on count and maximum temperature value

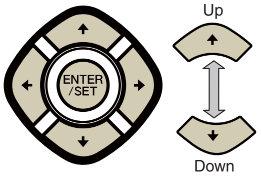
① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] six times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

4. Other Assys: Clearance of the maximum temperature value

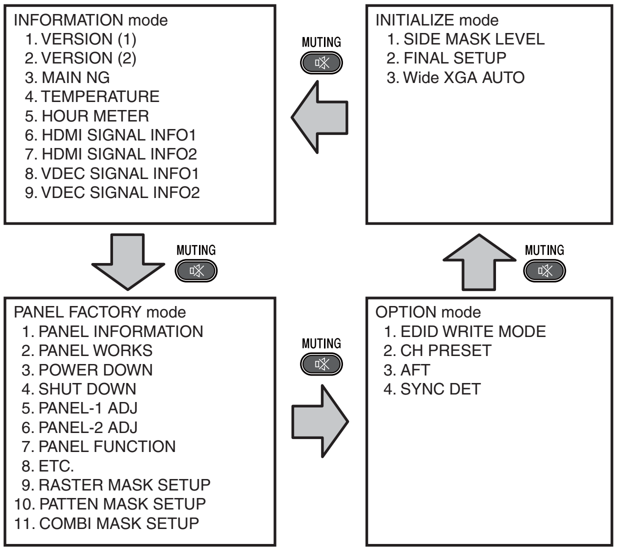
① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] seven times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected.

Quick Reference upon Service Visit ②
Mode transition and structure of layers in Service Factory mode

Mode transition in Service Factory mode



- To shift to another mode, press [MUTING].
- To shift to another item in a specific mode, press [⬆] or [⬇].
- To shift to the next nested layer below for an item with a "(+)" indication, press [ENTER/SET]. To return to the next nested layer above, also press [ENTER/SET].



INFORMATION mode
1. VERSION (1)
2. VERSION (2)
3. MAIN NG
4. TEMPERATURE
5. HOUR METER
6. HDMI SIGNAL INFO1
7. HDMI SIGNAL INFO2
8. VDEC SIGNAL INFO1
9. VDEC SIGNAL INFO2

INITIALIZE mode
1. SIDE MASK LEVEL
2. FINAL SETUP
3. Wide XGA AUTO

PANEL FACTORY mode
1. PANEL INFORMATION
2. PANEL WORKS
3. POWER DOWN
4. SHUT DOWN
5. PANEL-1 ADJ
6. PANEL-2 ADJ
7. PANEL FUNCTION
8. ETC.
9. RASTER MASK SETUP
10. PATTEN MASK SETUP
11. COMBI MASK SETUP

OPTION mode
1. EDID WRITE MODE
2. CH PRESET
3. AFT
4. SYNC DET

Structure of Layers in Service Factory Mode

INFORMATION mode	
1. VERSION (1)	The software versions for each microcomputer
2. VERSION (2)	The Flash memory versions for each device
3. MAIN NG	The shutdown message ID/event times (Going Clear mode by [ENTER/SET] key)
3-1. CLEAR	Select Yes by [➡] key, ➡ pressing and hold [ENTER/SET] key
4. TEMPERATURE	The temperature/FAN rotating status/Room light sensor
5. HOUR METER	The HOUR METER/P-COUNT information
6. HDMI SIGNAL INFO 1	The information of HDMI information files
7. HDMI SIGNAL INFO 2	The information of HDMI information files
8. VDEC SIGNAL INFO 1	The signal information of VDEC
9. VDEC SIGNAL INFO 2	The signal information of VDEC
PANEL FACTORY mode	Refer to [PANEL FACTORY MODE]
OPTION mode	
1. EDID WRITE MODE	For factory use
2. CH PRESET	For production line use
3. AFT	For factory use
4. SYNC DET	For technical analysis
INITIALIZE mode	
1. SIDE MASK LEVEL	For factory use
1-1. SIDE MASK LEVEL	
2. FINAL SETUP	Set to Factory default settings (it should perform after replacing a MAIN Assy)
2-1. DATA RESET	
3. Wide XGA AUTO	For technical analysis

Structure of Layers in Panel Factory Mode 1

1. PANEL INFORMATION	Version indication of the panel
2. PANEL WORKS	Indications of the accumulated power-on time, pulse-meter count, and power-on count of the panel
3. POWER DOWN	Indication of the Power-down history
4. SHUT DOWN	Indication of the Shutdown history
5. PANEL-1 ADJ (+)	
1. VOL SUS	Settings required after replacement of the panel
2. VOL OFFSET	
• • • • •	
8. VOL YNOFS4	
9. RESET1ST_KSB	Modification not required because these items are basically for factory presetting
10. RESET2ND_KSB	
• • • • •	
23. YSTL_FMR_HZ	
24. SUS FREQ	For AM noise prevention (Depending on the mode, brightness of the screen changes.) For confirmation of the result of the setting change, the unit must be turned off then back on again.
6. PANEL-2 ADJ (+)	
1. R-HIGH	Parameters for the WB adjustment of the panel, which are required during adjustment after panel replacement
2. G-HIGH	
3 .B-HIGH	
4. R-LOW	
5. G-LOW	
6. B-LOW	
7. ABL	Setting of the power consumption. A setting table is available for each vertical signal.

To "Structure of Layers in Panel Factory Mode 2"

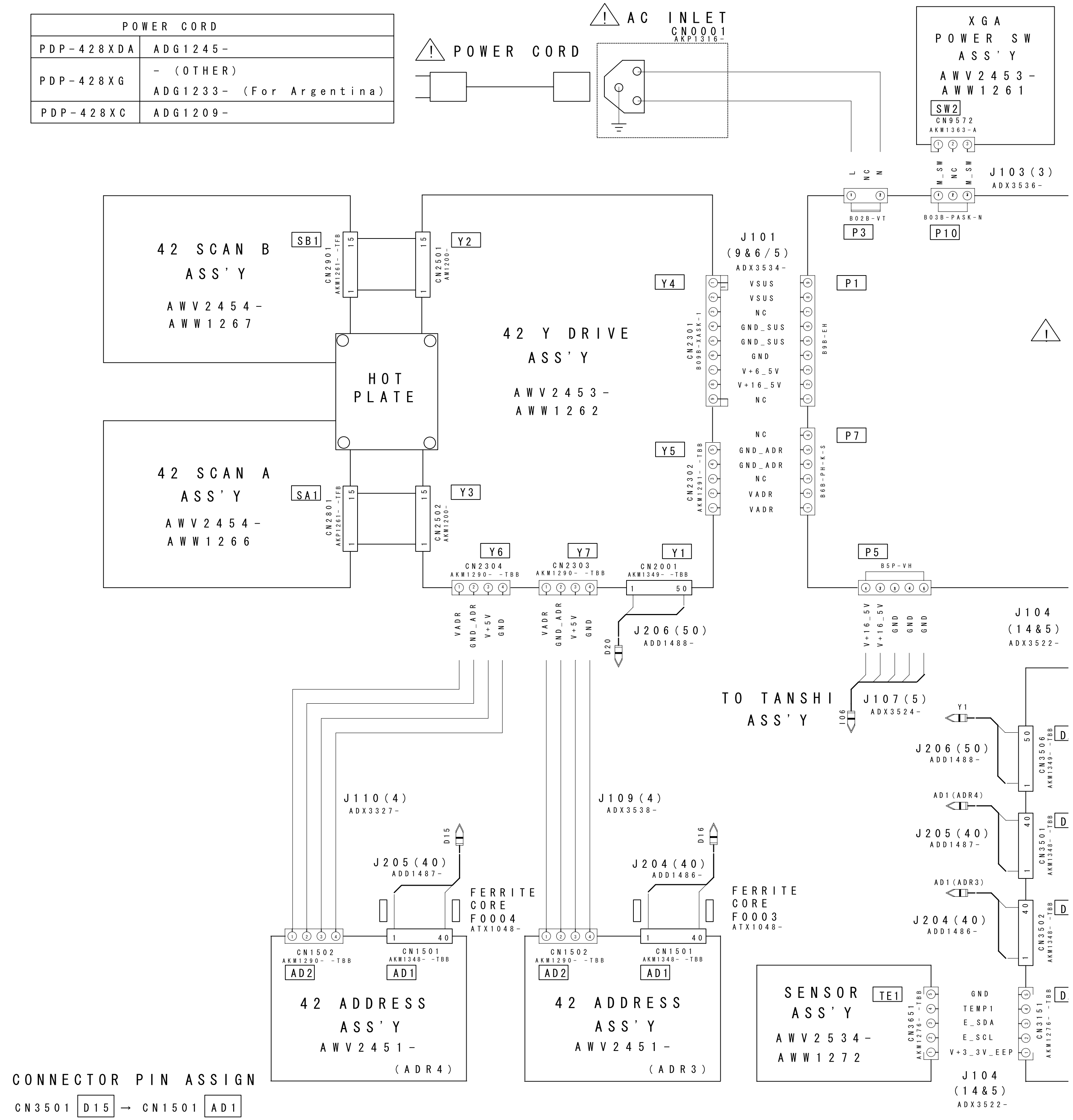
Structure of Layers in Panel Factory Mode 2

7. PANEL FUNCTION (+)	
1. R-LEVEL	Items for use by engineers
2. G-LEVEL	
3. B-LEVEL	
4. ADDRESS L1	
5. ADDRESS L2	
• • • • •	
11. ADDRESS U4	
12. STK MODE	
8. ETC (+)	
1. BACKUP DATA	For transferring backup data (after replacement of the DIGITAL Assy)
2. DIGITAL EEPROM	To clear data of the digital video
3. PD INFO.	For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", using [➡], then hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, {ETC} is automatically selected.
4. SD INFO.	
5. HR-MTR INFO.	
6. PM/B1-B5	
7. P COUNT INFO.	
8. MAX TEMP.	
9. RASTER MASK SETUP (+)	
1. MASK OFF	For use while Raster Mask (full mask) is displayed. Use [⬆] or [⬇] to select the type of mask.
2. RST MASK 01	
• • • • •	
26. RST MASK 25	
10. PATTEN MASK SETUP (+)	
1. MASK OFF	For use while Pattern Mask is displayed. Use [⬆] or [⬇] to select the type of mask.
2. PTN MASK 01	
• • • • •	
50. PTN MASK 49	
11. COMBI MASK SETUP (+)	
1. MASK OFF	For use while Combination Mask is displayed. Use [⬆] or [⬇] to select the type of mask.
2. CMB MASK 01	
• • • • •	
18. CMB MASK 17	

3. BLOCK DIAGRAM

BLOCK DIAGRAM of PDP-428XG/DLFT,PDP-428XDA/YP and PDP-428XC/WA5 is the same as PDP-4280XA/WYV5 except for the following:

3.1 OVERALL WIRING DIAGRAM (1/2)


AC INLET
CN0001
AKP1316-
POWER CORD
XGA
POWER SW
ASS'Y
AWV2453-
AWW1261
SW2
CN9572
AKM1363-A
L
NC
N
M_SW
NC
M_SW
J103(3)
ADX3536-
B02B-VT
P3
B03B-PASK-N
P10
42 SCAN B
ASS'Y
AWV2454-
AWW1267
SB1
CN2901
AKM1261- -TFB
15
1
Y2
CN2501
AKM1200-
HOT
PLATE
42 Y DRIVE
ASS'Y
AWV2453-
AWW1262
J101
(9&6/5)
ADX3534-
Y4
CN2301
B09B-XASK-1
VSUS
VSUS
NC
GND_SUS
GND_SUS
GND
V+6_5V
V+16_5V
NC
P1
B9B-EH
Y5
CN2302
AKM1291- -TBB
NC
GND_ADR
GND_ADR
NC
VADR
VADR
P7
B6B-PH-K-S
42 SCAN A
ASS'Y
AWV2454-
AWW1266
SA1
CN2801
AKP1261- -TFB
Y3
CN2502
AKM1200-
Y6
CN2304
AKM1290- -TBB
Y7
CN2303
AKM1290- -TBB
Y1
CN2001
AKM1349- -TBB
1
50
P5
B5P-VH
VADR
GND_ADR
V+5V
GND
VADR
GND_ADR
V+5V
GND
D20
J206(50)
ADD1488-
V+16_5V
V+16_5V
GND
GND
GND
J104
(14&5)
ADX3522-
TO TANSHI
ASS'Y
I06
J107(5)
ADX3524-
Y1
J206(50)
ADD1488-
CN3506
AKM1349- -TBB
D
AD1(ADR4)
J205(40)
ADD1487-
CN3501
AKM1348- -TBB
AD1(ADR3)
J204(40)
ADD1486-
CN3502
AKM1348- -TBB
J110(4)
ADX3327-
J109(4)
ADX3538-
D15
J205(40)
ADD1487-
FERRITE
CORE
F0004
ATX1048-
D16
J204(40)
ADD1486-
FERRITE
CORE
F0003
ATX1048-
CN1502
AKM1290- -TBB
AD2
CN1501
AKM1348- -TBB
AD1
1
40
42 ADDRESS
ASS'Y
AWV2451-
(ADR4)
CN1502
AKM1290- -TBB
AD2
CN1501
AKM1348- -TBB
AD1
42 ADDRESS
ASS'Y
AWV2451-
(ADR3)
SENSOR
ASS'Y
AWV2534-
AWW1272
TE1
CN3651
AKM1276- -TBB
GND
TEMP1
E_SDA
E_SCL
V+3_3V_EEP
CN3151
AKM1276- -TBB
J104
(14&5)
ADX3522-

POWER CORD	
PDP-428XDA	ADG1245-
PDP-428XG	- (OTHER) ADG1233- (For Argentina)
PDP-428XC	ADG1209-

CONNECTOR PIN ASSIGN

CN3501 D15 → CN1501 AD1
CN3502 D16 → CN1501 AD1
CN3503 D17 → CN1501 AD1
CN3504 D18 → CN1501 AD1

1→40. NC
2→39. ADR_PD
3→38. PSIZE
4→37. GND
5→36. V+8V
6→35. V+8V
7→34. GND
8→33. GND
9→32. NC
10→31. AN
11→30. AP
12→29. NC
13→28. GND
14→27. NC
15→26. BN
16→25. BP
17→24. NC
18→23. GND
19→22. NC
20→21. CN
21→20. CP
22→19. NC
23→18. GND
24→17. NC
25→16. CLKN
26→15. CLKP
27→14. NC
28→13. GND
29→12. NC
30→11. DN
31→10. DP
32→ 9. NC
33→ 8. GND
34→ 7. GND
35→ 6. V+3_3V_D
36→ 5. V+3_3V_D
37→ 4. GND
38→ 3. NC
39→ 2. LS2
40→ 1. GND

CN2502 Y3
↓
CN2801 SA1

1. VH
2. VH
3. NC
4. NC
5. GNDH
6. SI_R
7. SI_L
8. CLR
9. OC2
10. OC1
11. CLK
12. LE
13. GNDH
14. GNDH_R
15. IC5V

CN2501 Y2
↓
CN2901 SB1

1. VH
2. VH
3. NC
4. NC
5. GNDH
6. SI_R
7. SI_H
8. CLR
9. OC2
10. OC1
11. CLK
12. LE
13. GNDH
14. GNDH_R
15. IC5V

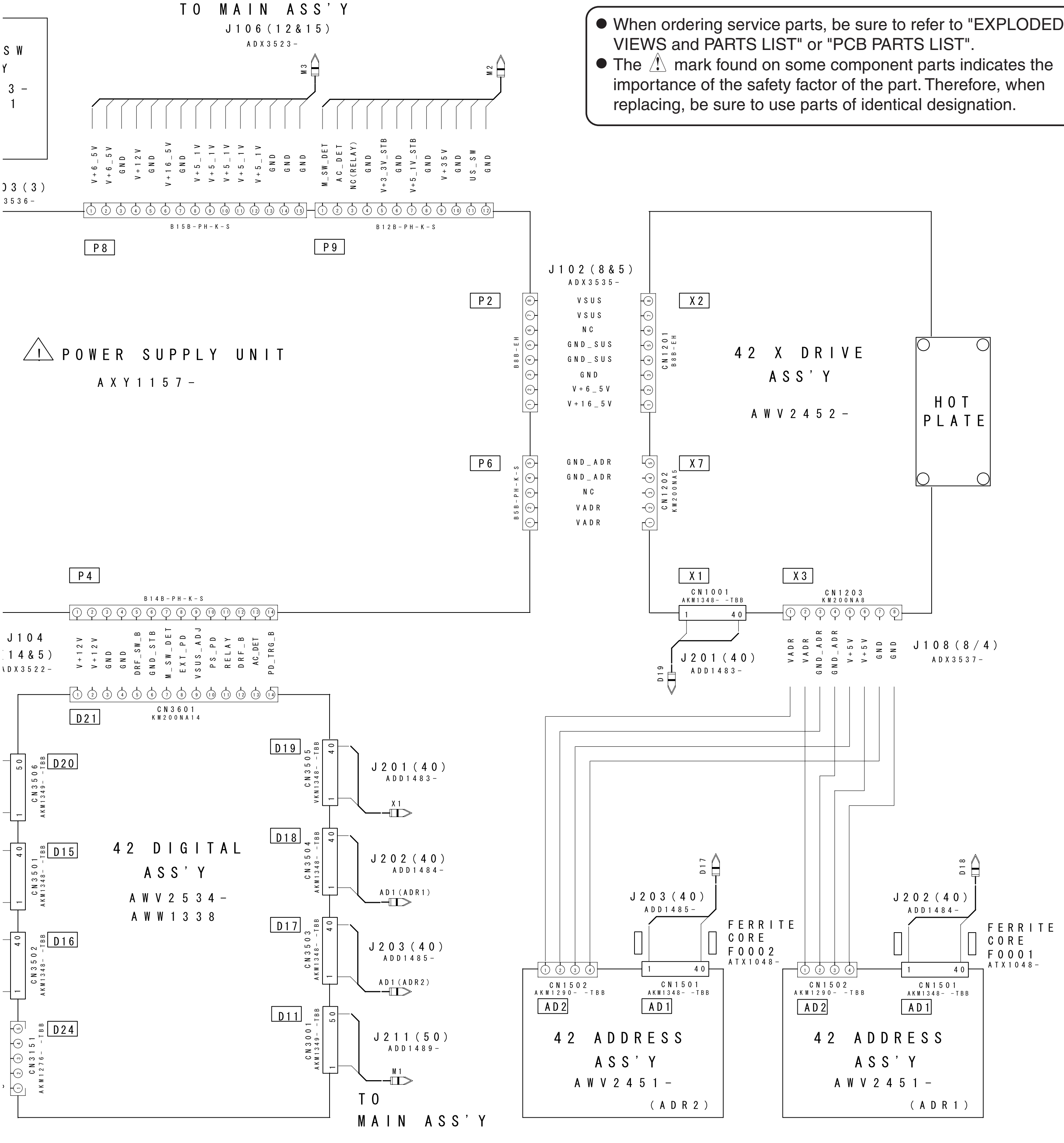
CN3505 D19 → CN1001 X1

1→40. XCN_PD
2→39. NC
3→38. GND
4→37. XSUS_B
5→36. GND
6→35. XSUS_U
7→34. GND
8→33. XSUS_D
9→32. GND
10→31. XSUS_G
11→30. GND
12→29. XPRST
13→28. GND
14→27. XKOFS1
15→26. GND
16→25. XKOFS2
17→24. GND
18→23. XSOFT_D
19→22. GND
20→21. SUS_MUTE
21→20. GND
22→19. XKOFS1_ADJ
23→18. XKOFS2_ADJ
24→17. GND
25→16. XDRV_PD
26→15. XDD_PD
27→14. PSW2
28→13. GND
29→12. NC
30→11. NC
31→10. NC
32→ 9. NC
33→ 8. NC
34→ 7. NC
35→ 6. NC
36→ 5. NC
37→ 4. NC
38→ 3. NC
39→ 2. NC
40→ 1. XSUS_PD

CN3506 D20 → CN2001 Y1

1→50. YCN_PD
2→49. SCN5V_PD
3→48. SI
4→47. GND
5→46. CLR
6→45. CLK
7→44. GND
8→43. LE
9→42. OC2
10→41. OC1
11→40. GND
12→39. YSUS_B
13→38. YSUS_U
14→37. GND
15→36. YSUS_D
16→35. YSUS_G
17→34. GND
18→33. YPR-U
19→32. SUS_MUTE
20→31. GND
21→30. YSUS_MSK_H
22→29. YSUS_MSK_L
23→28. GND
24→27. YKNOFS1
25→26. YKNOFS2
26→25. YKNOFS3
27→24. YKNOFS4
28→23. GND
29→22. YNOFS
30→21. YRST_D
31→20. YSOFT_G
32→19. YSOFT_D
33→18. GND
34→17. VOFS_ADJ
35→16. VYPRST_ADJ
36→15. GND
37→14. NC
38→13. VKNOFS1_2_ADJ
39→12. VKNOFS3_ADJ
40→11. VKNOFS4_ADJ
41→10. GND
42→ 9. YRsv1
43→ 8. YRsv2
44→ 7. YRsv3
45→ 6. GND
46→ 5. YDD_PD
47→ 4. YSUS_PD
48→ 3. SCAN_PD
49→ 2. YDRV_PD
50→ 1. PSW2

- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.


TO MAIN ASS'Y
J106(12&15)
ADX3523-
M3
M2
V+6_5V
V+6_5V
GND
V+12V
GND
V+16_5V
GND
V+5_1V
V+5_1V
V+5_1V
V+5_1V
GND
GND
GND
M_SW_DET
AC_DET
NC(RELAY)
GND
V+3_3V_STB
GND
V+5_1V_STB
GND
V+35V
GND
US_SW
GND
B15B-PH-K-S
B12B-PH-K-S
P8
P9
J102(8&5)
ADX3535-
P2
X2
VSUS
VSUS
NC
GND_SUS
GND_SUS
GND
V+6_5V
V+16_5V
B8B-EH
CN1201
B8B-EH
⚠ POWER SUPPLY UNIT
AXY1157-
42 X DRIVE ASS'Y
AWV2452-
HOT PLATE
P6
X7
GND_ADR
GND_ADR
NC
VADR
VADR
B5B-PH-K-S
CN1202
KM200NA5
P4
B14B-PH-K-S
X1
X3
CN1001
AKM1348- -TBB
CN1203
KM200NA8
J104
(14&5)
ADX3522-
V+12V
V+12V
GND
GND
DRF_SW_B
GND_STB
M_SW_DET
EXT_PD
VSUS_ADJ
PS_PD
RELAY
DRF_B
AC_DET
PD_TRG_B
VADR
VADR
GND_ADR
GND_ADR
V+5V
V+5V
GND
GND
J108(8/4)
ADX3537-
J201(40)
ADD1483-
D19
CN3601
KM200NA14
D21
D20
CN3506
AKM1349- -TBB
D19
CN3505
VKN1348- -TBB
J201(40)
ADD1483-
X1
D15
CN3501
AKM1348- -TBB
42 DIGITAL ASS'Y
AWV2534-
AWW1338
D18
CN3504
AKM1348- -TBB
J202(40)
ADD1484-
AD1(ADR1)
D16
CN3502
AKM1348- -TBB
D17
CN3503
AKM1348- -TBB
J203(40)
ADD1485-
AD1(ADR2)
D24
CN3151
AKM1276- -TBB
D11
CN3001
AKM1349- -TBB
J211(50)
ADD1489-
M1
TO MAIN ASS'Y
D17
J203(40)
ADD1485-
FERRITE CORE
F0002
ATX1048-
CN1502
AKM1290- -TBB
CN1501
AKM1348- -TBB
AD2
AD1
42 ADDRESS ASS'Y
AWV2451-
(ADR2)
D18
J202(40)
ADD1484-
FERRITE CORE
F0001
ATX1048-
CN1502
AKM1290- -TBB
CN1501
AKM1348- -TBB
AD2
AD1
42 ADDRESS ASS'Y
AWV2451-
(ADR1)

1
S3
S4
D
_G
_D
ADJ
T_ADJ
S1_2_ADJ
S3_ADJ
S4_ADJ
D
PD
PD
PD

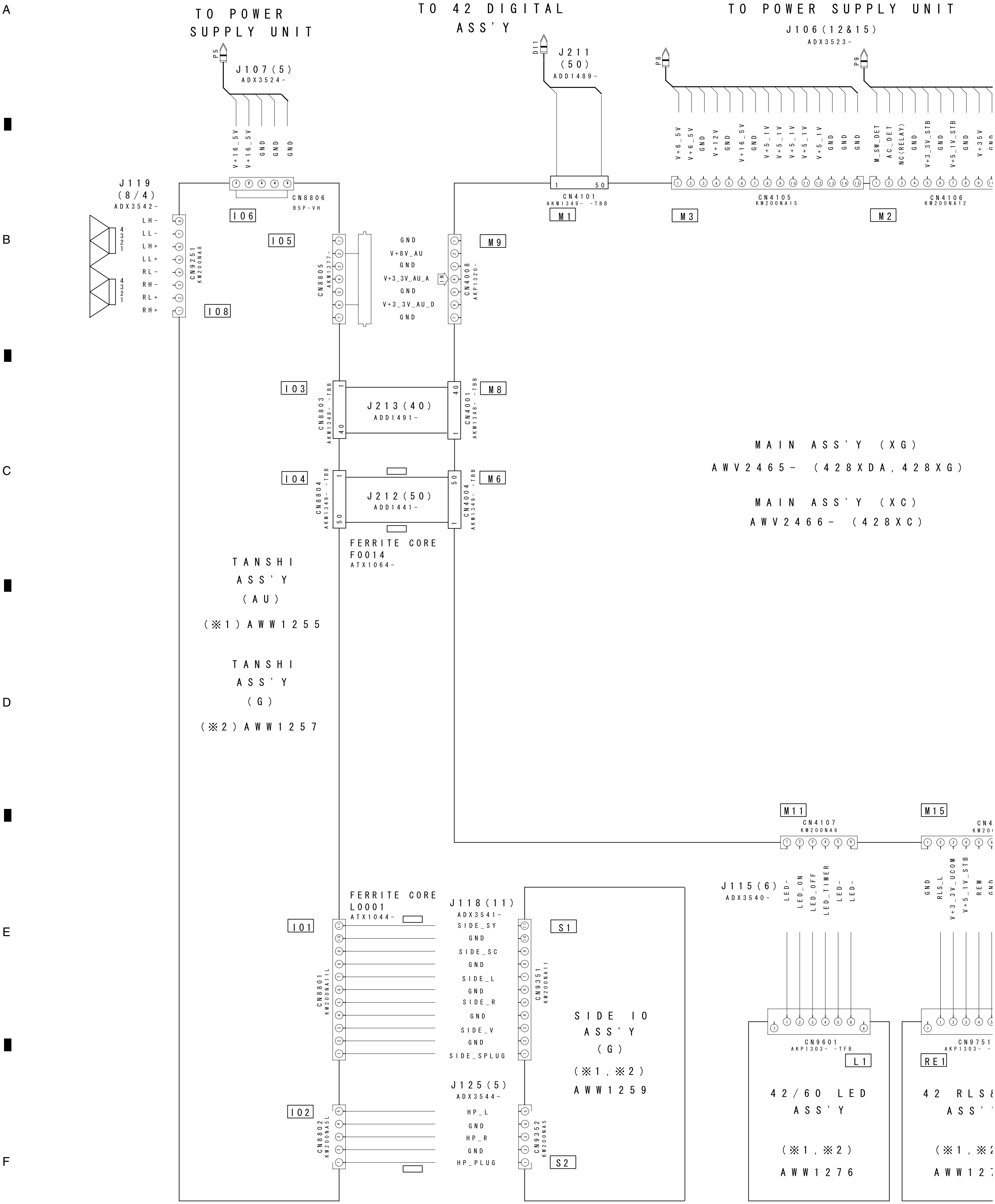
CN3001 **D11** → CN4101 **M1**

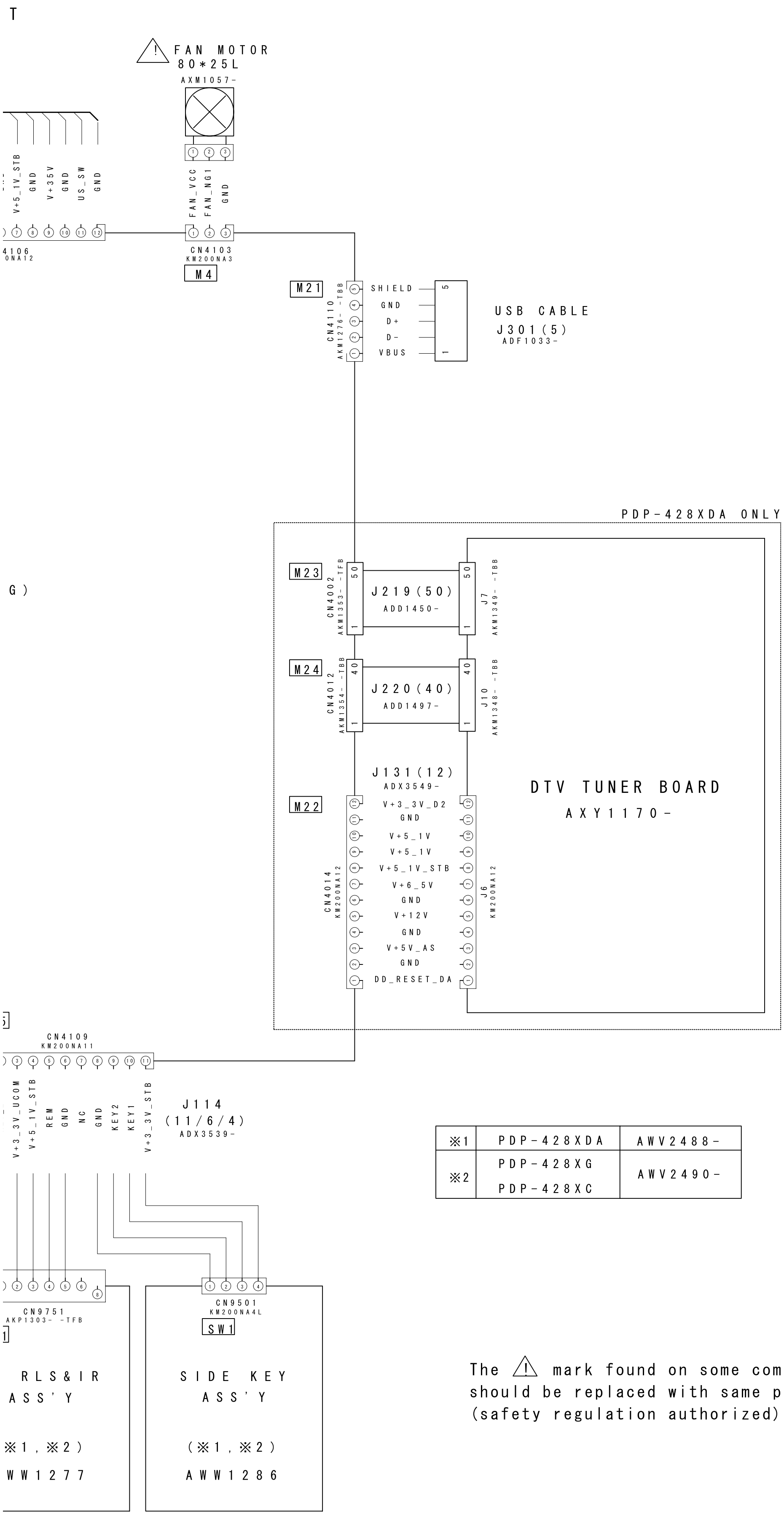
1→50. GND	26→25. GND
2→49. LVDS_ON	27→24. LVDS_E0+
3→48. REQ_MD	28→23. LVDS_E0-
4→47. RXD_MD	29→22. GND
5→46. TXD_MD	30→21. LVDS_D0+
6→45. GND	31→20. LVDS_D0-
7→44. GND	32→19. GND
8→43. GND	33→18. LVDS_CLK0+
9→42. GND	34→17. LVDS_CLK0-
10→41. GND	35→16. GND
11→40. GND	36→15. LVDS_C0+
12→39. GND	37→14. LVDS_C0-
13→38. GND	38→13. GND
14→37. GND	39→12. LVDS_B0+
15→36. GND	40→11. LVDS_B0-
16→35. GND	41→10. GND
17→34. GND	42→ 9. LVDS_A0+
18→33. GND	43→ 8. LVDS_A0-
19→32. GND	44→ 7. GND
20→31. GND	45→ 6. GND
21→30. GND	46→ 5. MSEL
22→29. GND	47→ 4. RELAY2
23→28. GND	48→ 3. V+3_3V_UCOM
24→27. GND	49→ 2. MODE
25→26. GND	50→ 1. GND

The ⚠ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.

OVERALL DIAGRAM
PDP-428XDA
PDP-428XG
PDP-428XC

3.2 OVERALL WIRING DIAGRAM (2/2)


A
B
C
D
E
F
TO POWER SUPPLY UNIT
P5
J107(5)
ADX3524-
V+16_5V
V+16_5V
GND
GND
GND
CN8806
B5P-VH
I06
J119
(8/4)
ADX3542-
LH-
LL-
LH+
LL+
RL-
RH-
RL+
RH+
4
3
2
1
4
3
2
1
CN9251
KM200NA8
I08
I05
CN8805
AKM1377-
GND
V+8V_AU
GND
V+3_3V_AU_A
GND
V+3_3V_AU_D
GND
IN
CN4008
AKP1320-
M9
TO 42 DIGITAL ASS'Y
D11
J211
(50)
ADD1489-
1
50
CN4101
AKM1349- -TBB
M1
TO POWER SUPPLY UNIT
J106(12&15)
ADX3523-
P8
V+6_5V
V+6_5V
GND
V+12V
GND
V+16_5V
GND
V+5_1V
V+5_1V
V+5_1V
V+5_1V
V+5_1V
GND
GND
GND
CN4105
KM200NA15
M3
P9
M_SW_DET
AC_DET
NC(RELAY)
GND
V+3_3V_STB
GND
V+5_1V_STB
GND
V+35V
GND
CN4106
KM200NA12
M2
I03
CN8803
AKM1348- -TBB
1
40
J213(40)
ADD1491-
40
1
CN4001
AKM1348- -TBB
M8
I04
CN8804
AKM1349- -TBB
1
50
J212(50)
ADD1441-
50
1
CN4004
AKM1349- -TBB
M6
FERRITE CORE
F0014
ATX1064-
MAIN ASS'Y (XG)
AWV2465- (428XDA, 428XG)
MAIN ASS'Y (XC)
AWV2466- (428XC)
TANSHI
ASS'Y
(AU)
(※1) AWW1255
TANSHI
ASS'Y
(G)
(※2) AWW1257
M11
CN4107
KM200NA6
M15
CN4
KM20
J115(6)
ADX3540-
LED-
LED_ON
LED_OFF
LED_TIMER
LED-
LED-
GND
RLS_L
V+3_3V_UCOM
V+5_1V_STB
REM
GND
FERRITE CORE
L0001
ATX1044-
J118(11)
ADX3541-
I01
CN8801
KM200NA11L
SIDE_SY
GND
SIDE_SC
GND
SIDE_L
GND
SIDE_R
GND
SIDE_V
GND
SIDE_SPLUG
CN9351
KM200NA11
S1
SIDE IO
ASS'Y
(G)
(※1, ※2)
AWW1259
J125(5)
ADX3544-
I02
CN8802
KM200NA5L
HP_L
GND
HP_R
GND
HP_PLUG
CN9352
KM200NA5
S2
CN9601
AKP1303- -TFB
L1
42/60 LED
ASS'Y
(※1, ※2)
AWW1276
CN9751
AKP1303-
RE1
42 RLS&
ASS'
(※1, ※
AWW127


T
FAN MOTOR
80*25L
AXM1057-
V+5_1V_STB
GND
V+35V
GND
US_SW
GND
FAN_VCC
FAN_NG1
GND
4106
0NA12
CN4103
KM200NA3
M4
M21
CN4110
AKM1276- -TBB
SHIELD
GND
D+
D-
VBUS
5
1
USB CABLE
J301(5)
ADF1033-
PDP-428XDA ONLY
G)
M23
CN4002
AKM1353- -TFB
50
1
J219(50)
ADD1450-
J7
AKM1349- -TBB
M24
CN4012
AKM1354- -TBB
40
J220(40)
ADD1497-
J10
AKM1348- -TBB
J131(12)
ADX3549-
M22
CN4014
KM200NA12
V+3_3V_D2
GND
V+5_1V
V+5_1V
V+5_1V_STB
V+6_5V
GND
V+12V
GND
V+5V_AS
GND
DD_RESET_DA
J6
KM200NA12
DTV TUNER BOARD
AXY1170-
CN4109
KM200NA11
V+3_3V_UCOM
V+5_1V_STB
REM
GND
NC
GND
KEY2
KEY1
V+3_3V_STB
J114
(11/6/4)
ADX3539-
CN9751
AKP1303- -TFB
CN9501
KM200NA4L
SW1
RLS&IR
ASS'Y
※1,※2)
WW1277
SIDE KEY
ASS'Y
(※1,※2)
AWW1286

※1	PDP-428XDA	AWV2488-
※2	PDP-428XG PDP-428XC	AWV2490-

CONNECTOR PIN ASSIGN

CN4004 M6 → CN8804 I04

1→50. GND
2→49. TEMP2
3→48. V+3_3V_UCOM
4→47. SIDE_SPLUG
5→46. SIDE_S2
6→45. SIDE_V
7→44. GND
8→43. SIDE_SY
9→42. GND
10→41. SIDE_SC
11→40. GND
12→39. INPUT1_V
13→38. GND
14→37. MON_OUT
15→36. GND
16→35. INPUT1_SY
17→34. NC
18→33. GND
19→32. INPUT2_V
20→31. GND
21→30. INPUT2_SC
22→29. GND
23→28. INPUT3_V
24→27. GND
25→26. INPUT3_SC
26→25. GND
27→24. INPUT1_SC
28→23. GND
29→22. INPUT2_SY
30→21. GND
31→20. INPUT3_SY
32→19. GND
33→18. INPUT2_Y
34→17. GND
35→16. INPUT2_Pb
36→15. GND
37→14. INPUT2_Pr
38→13. GND
39→12. INPUT1_Y
40→11. GND
41→10. INPUT1_Pb
42→ 9. GND
43→ 8. INPUT1_Pr
44→ 7. GND
45→ 6. AIR_R
46→ 5. GND
47→ 4. AIR_L
48→ 3. GND
49→ 2. AIR_SIF
50→ 1. GND

CN4001 M8 → CN8803 I03

1→40. V+5V_A
2→39. NC
3→38. V+3_3V_STB
4→37. NC
5→36. GND
6→35. AIR_SIF
7→34. GND
8→33. INPUT2_PLUG
9→32. INPUT1_PLUG
10→31. NC
11→30. INPUT1_SPLUG
12→29. INPUT2_SPLUG
13→28. INPUT3_SPLUG
14→27. HP_PLUG
15→26. NC
16→25. NC
17→24. MON_MUTE
18→23. NC
19→22. AC_HP_MUTE
20→21. NC
21→20. NC
22→19. GND
23→18. SPDIF_EMMA(DTB)
24→17. GND
25→16. I2S_SDATA_HDMI
26→15. I2S_LRCLK_HDMI
27→14. I2S_BCLK_HDMI
28→13. GND
29→12. I2S_BCLK_EMMA(DTB)
30→11. I2S_LRCLK_EMMA(DTB)
31→10. I2S_SDATA_EMMA(DTB)
32→ 9. GND
33→ 8. SCL_AV
34→ 7. SDA_AV
35→ 6. AC_A_MUTE
36→ 5. RST_MSP
37→ 4. OTW
38→ 3. A_NG_B
39→ 2. IO_DET
40→ 1. GND

CN4002 M23 → J7

1. GND
2. TXD_DT
3. RXD_DT
4. GND
5. NC
6. CLK_DT_N
7. CLK_DT
8. GND
9. Y7_DT
10. Y6_DT
11. GND
12. Y5_DT
13. Y4_DT
14. GND
15. Y3_DT
16. Y2_DT
17. GND
18. Y1_DT
19. Y0_DT
20. GND
21. CB7_DT
22. CB6_DT
23. GND
24. CB5_DT
25. CB4_DT
26. GND
27. CB3_DT
28. CB2_DT
29. GND
30. CB1_DT
31. CB0_DT
33. GND
33. CR7_DT
34. CR6_DT
35. GND
36. CR5_DT
37. CR4_DT
38. GND
39. CR3_DT
40. CR2_DT
41. GND
42. CR1_DT
43. CR0_DT
44. GND
45. DE_DT
46. GND
47. VD_DT
48. GND
49. HD_DT
50. GND

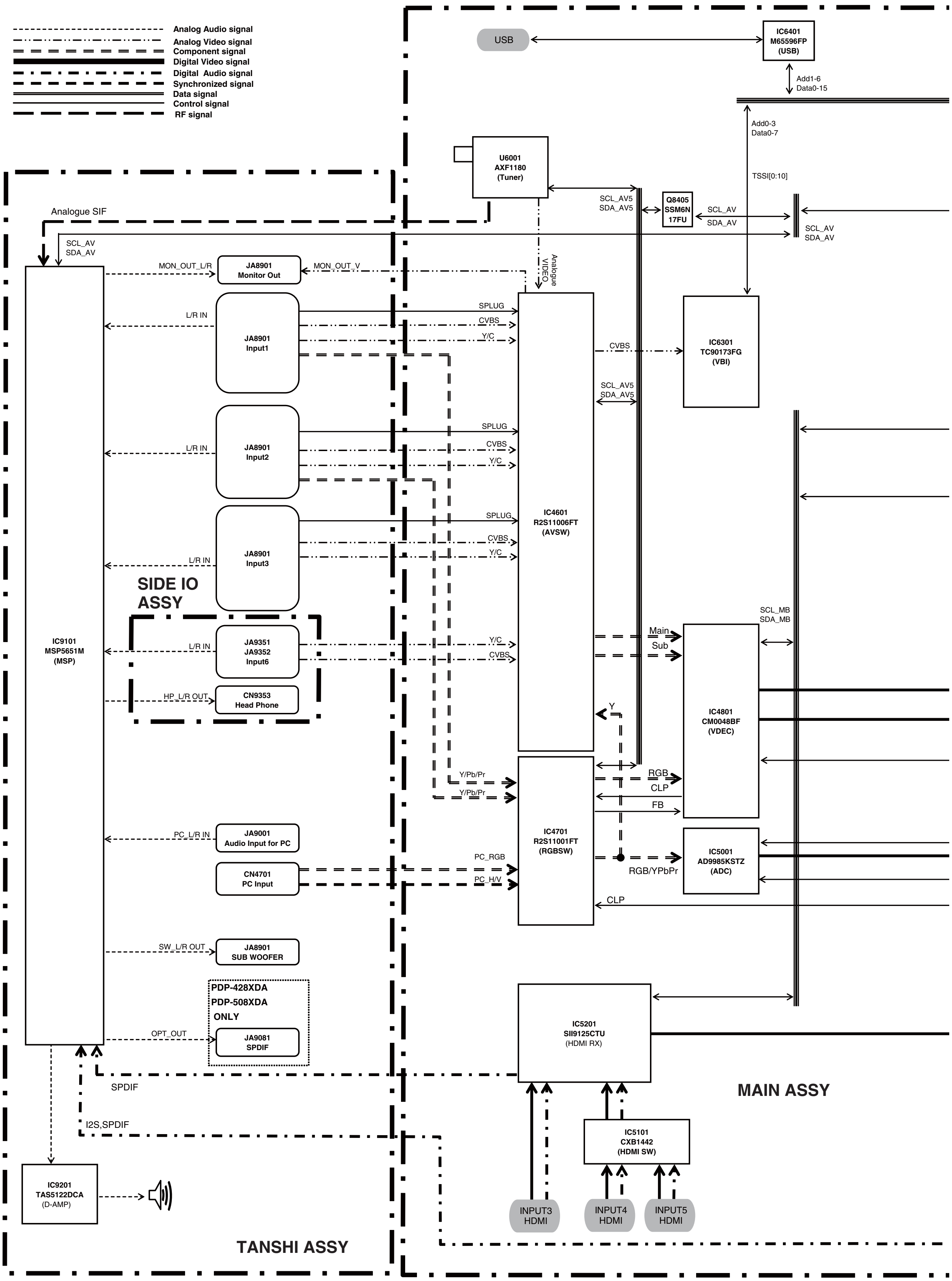
CN4012 M24 → J10

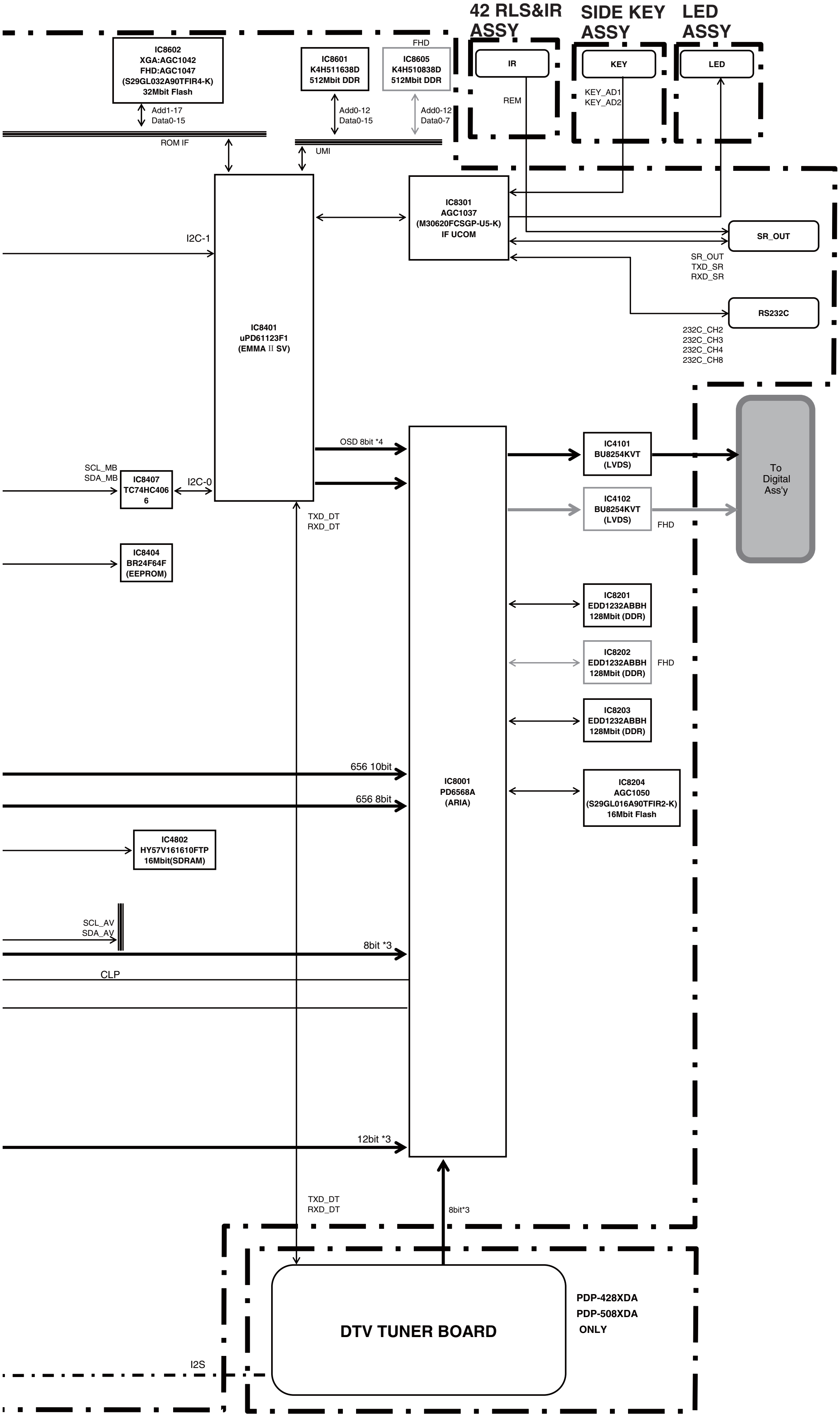
1. GND
2. DT_MON_V_HDDTB
3. GND
4. GND
5. GND
6. GND
7. NC
8. GND
9. NC
10. GND
11. NC
12. GND
13. NC
14. GND
15. GND
16. GND
17. GND
18. GND
19. GND
20. GND
21. GND
22. GND
23. GND
24. SPDIF_HDDTB
25. GND
26. I2S_BCLK_HDDTB
27. NC
28. I2S_LRCLK_HDDTB
29. GND
30. I2S_SDATA_HDDTB
31. GND
32. GND
33. GND
34. GND
35. GND
36. ANT_POW_EU
37. POW_DET
38. RST_DT
39. DT_DET
40. GND

The ⚠ mark found on some component parts
should be replaced with same parts
(safety regulation authorized) of identical designation.

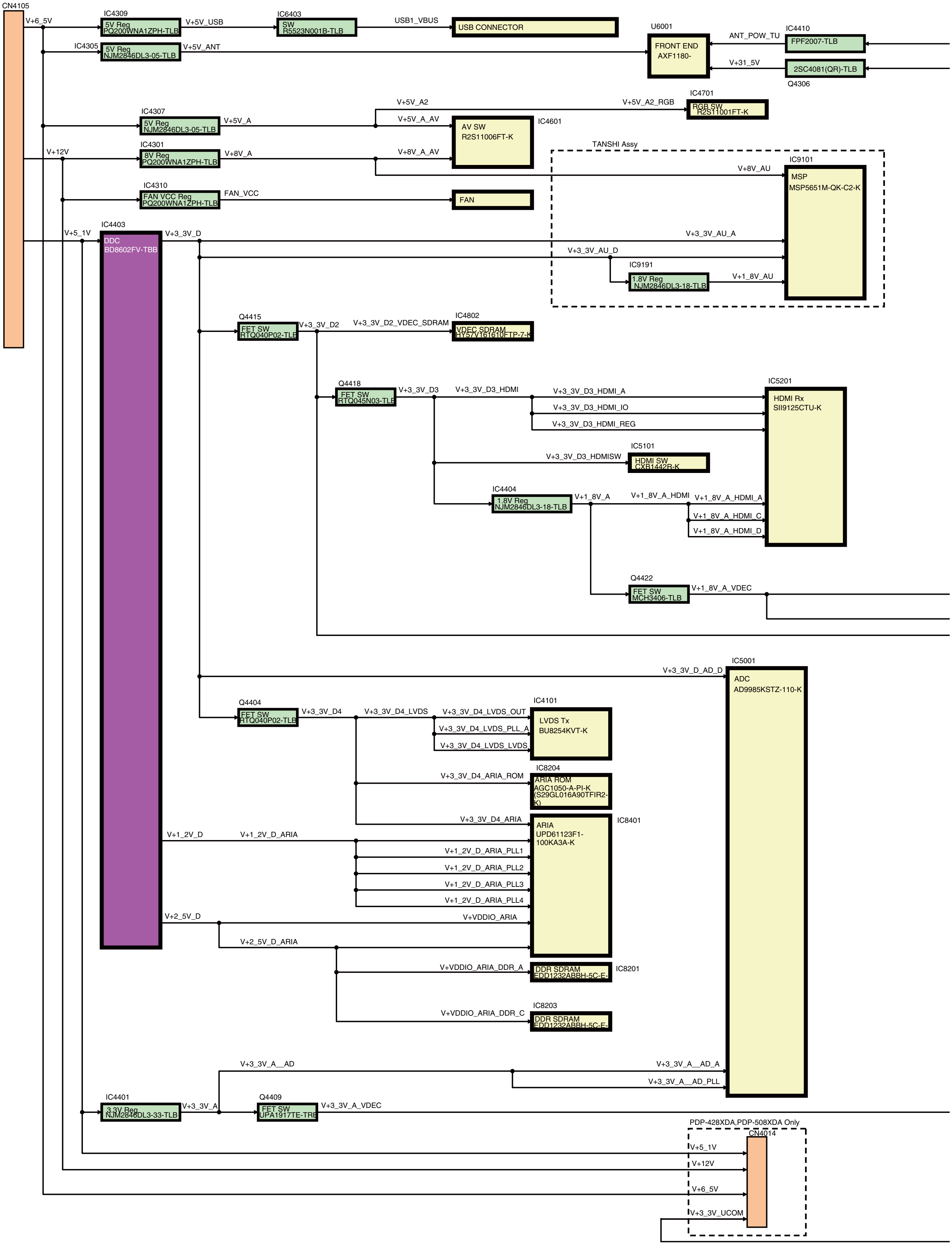
OVERALL DIAGRAM
PDP-428XDA
PDP-428XG
PDP-428XC

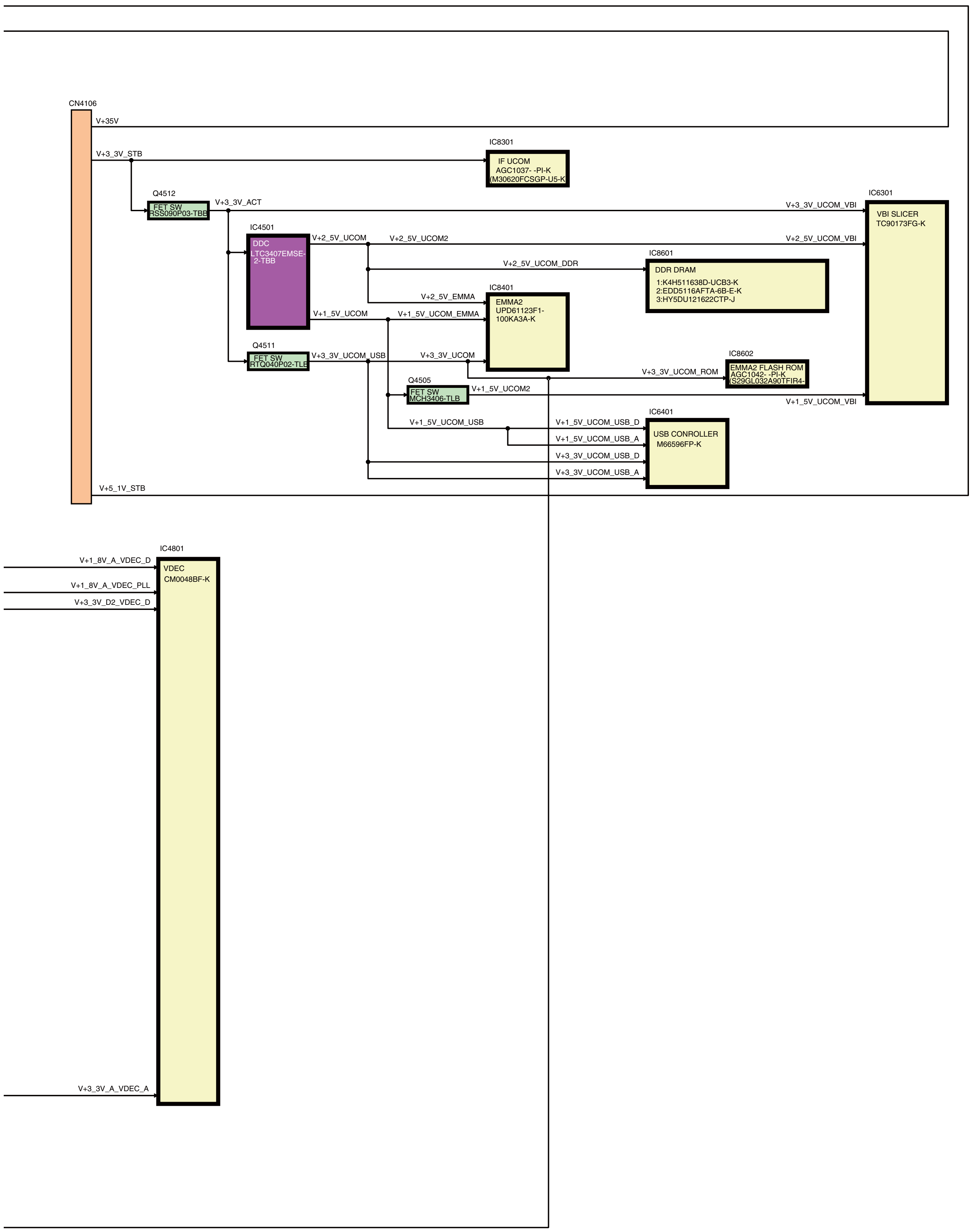
3.3 OVERALL BLOCK DIAGRAM


Analog Audio signal
Analog Video signal
Component signal
Digital Video signal
Digital Audio signal
Synchronized signal
Data signal
Control signal
RF signal
USB
IC6401
M65596FP
(USB)
Add1-6
Data0-15
Add0-3
Data0-7
TSSI[0:10]
U6001
AXF1180
(Tuner)
SCL_AV5
SDA_AV5
Q8405
SSM6N
17FU
SCL_AV
SDA_AV
SCL_AV
SDA_AV
Analogue SIF
SCL_AV
SDA_AV
Analogue VIDEO
MON_OUT_L/R
JA8901
Monitor Out
MON_OUT_V
L/R IN
JA8901
Input1
SPLUG
CVBS
Y/C
CVBS
IC6301
TC90173FG
(VBI)
SCL_AV5
SDA_AV5
L/R IN
JA8901
Input2
SPLUG
CVBS
Y/C
JA8901
Input3
L/R IN
SPLUG
CVBS
Y/C
IC4601
R2S11006FT
(AVSW)
SIDE IO
ASSY
IC9101
MSP5651M
(MSP)
L/R IN
JA9351
JA9352
Input6
Y/C
CVBS
Main
Sub
SCL_MB
SDA_MB
IC4801
CM0048BF
(VDEC)
HP_L/R OUT
CN9353
Head Phone
Y
Y/Pb/Pr
Y/Pb/Pr
RGB
CLP
FB
PC_L/R IN
JA9001
Audio Input for PC
IC4701
R2S11001FT
(RGBSW)
PC_RGB
CN4701
PC Input
PC_H/V
RGB/YPbPr
IC5001
AD9985KSTZ
(ADC)
CLP
SW_L/R OUT
JA8901
SUB WOOFER
PDP-428XDA
PDP-508XDA
ONLY
OPT_OUT
JA9081
SPDIF
IC5201
SII9125CTU
(HDMI RX)
SPDIF
MAIN ASSY
I2S,SPDIF
IC5101
CXB1442
(HDMI SW)
IC9201
TAS5122DCA
(D-AMP)
INPUT3
HDMI
INPUT4
HDMI
INPUT5
HDMI
TANSHI ASSY


42 RLS&IR ASSY
SIDE KEY ASSY
LED ASSY
IC8602
XGA:AGC1042
FHD:AGC1047
(S29GL032A90TFIR4-K)
32Mbit Flash
Add1-17
Data0-15
ROM IF
IC8601
K4H511638D
512Mbit DDR
Add0-12
Data0-15
FHD
IC8605
K4H510838D
512Mbit DDR
Add0-12
Data0-7
UMI
IR
REM
KEY
KEY_AD1
KEY_AD2
LED
IC8301
AGC1037
(M30620FCSGP-U5-K)
IF UCOM
SR_OUT
SR_OUT
TXD_SR
RXD_SR
RS232C
232C_CH2
232C_CH3
232C_CH4
232C_CH8
I2C-1
IC8401
uPD61123F1
(EMMA II SV)
OSD 8bit *4
SCL_MB
SDA_MB
IC8407
TC74HC4066
I2C-0
TXD_DT
RXD_DT
IC4101
BU8254KVT
(LVDS)
IC4102
BU8254KVT
(LVDS)
FHD
To Digital Ass'y
IC8404
BR24F64F
(EEPROM)
IC8201
EDD1232ABBH
128Mbit (DDR)
IC8202
EDD1232ABBH
128Mbit (DDR)
FHD
IC8203
EDD1232ABBH
128Mbit (DDR)
656 10bit
656 8bit
IC8001
PD6568A
(ARIA)
IC8204
AGC1050
(S29GL016A90TFIR2-K)
16Mbit Flash
IC4802
HY57V161610FTP
16Mbit(SDRAM)
SCL_AV
SDA_AV
8bit *3
CLP
12bit *3
TXD_DT
RXD_DT
8bit*3
DTV TUNER BOARD
PDP-428XDA
PDP-508XDA
ONLY
I2S

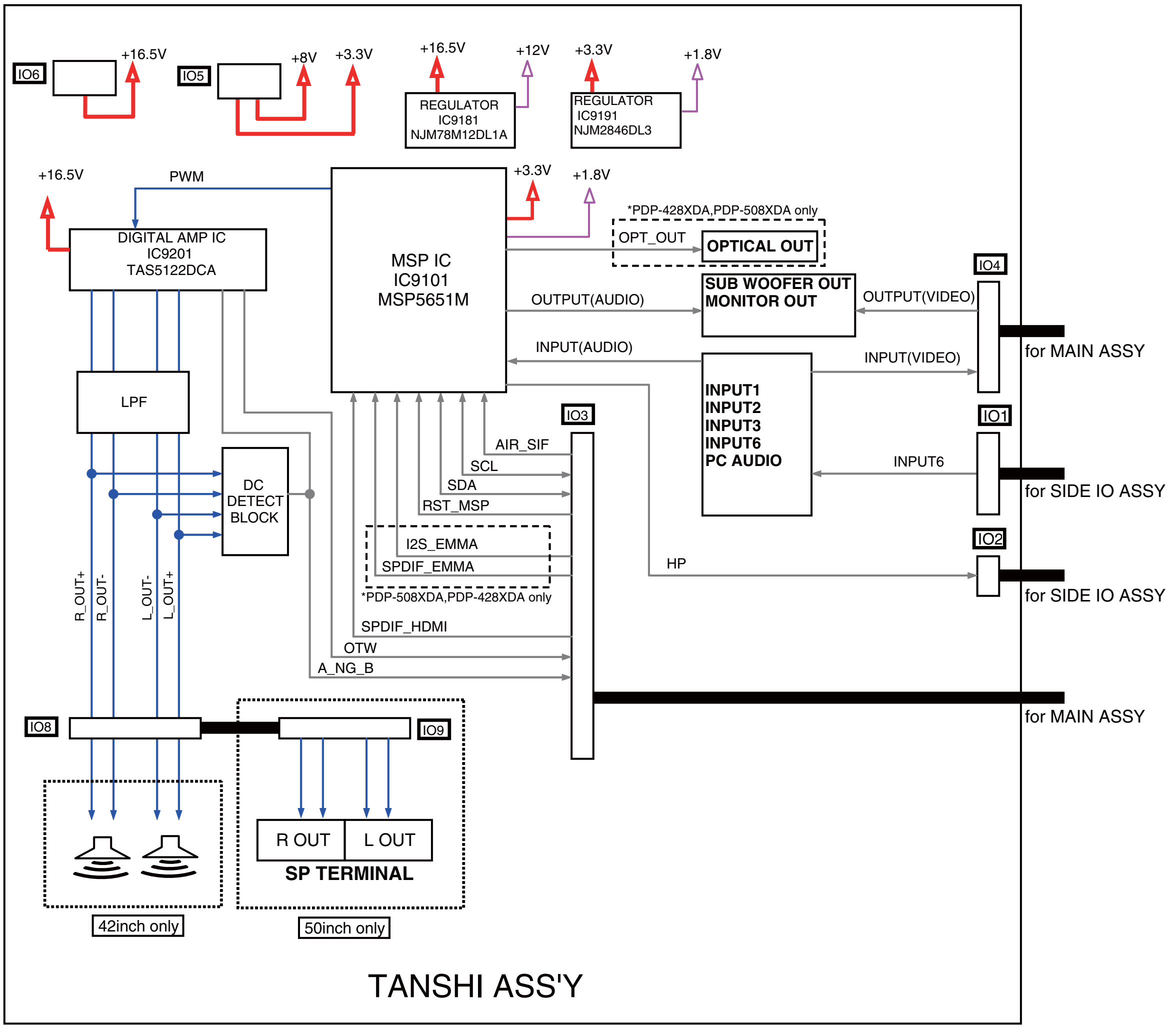
3.4 POWER SUPPLY BLOCK of MULTI BASE SECTION


CN4105
V+6_5V
IC4309
5V Reg
PQ200WNA1ZPH-TLB
V+5V_USB
IC6403
SW
R5523N001B-TLB
USB1_VBUS
USB CONNECTOR
U6001
FRONT END
AXF1180-
ANT_POW_TU
IC4410
FPF2007-TLB
V+31_5V
2SC4081(QR)-TLB
Q4306
IC4305
5V Reg
NJM2846DL3-05-TLB
V+5V_ANT
V+5V_A2
V+5V_A2_RGB
IC4701
RGB SW
R2S11001FT-K
IC4307
5V Reg
NJM2846DL3-05-TLB
V+5V_A
V+5V_A_AV
AV SW
R2S11006FT-K
IC4601
V+12V
IC4301
8V Reg
PQ200WNA1ZPH-TLB
V+8V_A
V+8V_A_AV
TANSHI Assy
IC9101
V+8V_AU
MSP
MSP5651M-QK-C2-K
IC4310
FAN VCC Reg
PQ200WNA1ZPH-TLB
FAN_VCC
FAN
V+5_1V
IC4403
DDC
BD8602FV-TBB
V+3_3V_D
V+3_3V_AU_A
V+3_3V_AU_D
IC9191
1.8V Reg
NJM2846DL3-18-TLB
V+1_8V_AU
Q4415
FET SW
RTQ040P02-TLB
V+3_3V_D2
V+3_3V_D2_VDEC_SDRAM
IC4802
VDEC SDRAM
HY57V161610FTP-7-K
Q4418
FET SW
RTQ045N03-TLB
V+3_3V_D3
V+3_3V_D3_HDMI
V+3_3V_D3_HDMI_A
V+3_3V_D3_HDMI_IO
V+3_3V_D3_HDMI_REG
IC5201
HDMI Rx
SII9125CTU-K
IC5101
V+3_3V_D3_HDMISW
HDMI SW
CXB1442R-K
IC4404
1.8V Reg
NJM2846DL3-18-TLB
V+1_8V_A
V+1_8V_A_HDMI
V+1_8V_A_HDMI_A
V+1_8V_A_HDMI_C
V+1_8V_A_HDMI_D
Q4422
FET SW
MCH3406-TLB
V+1_8V_A_VDEC
IC5001
V+3_3V_D_AD_D
ADC
AD9985KSTZ-110-K
Q4404
FET SW
RTQ040P02-TLB
V+3_3V_D4
V+3_3V_D4_LVDS
V+3_3V_D4_LVDS_OUT
IC4101
LVDS Tx
BU8254KVT-K
V+3_3V_D4_LVDS_PLL_A
V+3_3V_D4_LVDS_LVDS
IC8204
V+3_3V_D4_ARIA_ROM
ARIA ROM
AGC1050-A-PI-K
(S29GL016A90TFIR2-K)
V+3_3V_D4_ARIA
IC8401
ARIA
UPD61123F1-100KA3A-K
V+1_2V_D
V+1_2V_D_ARIA
V+1_2V_D_ARIA_PLL1
V+1_2V_D_ARIA_PLL2
V+1_2V_D_ARIA_PLL3
V+1_2V_D_ARIA_PLL4
V+2_5V_D
V+VDDIO_ARIA
V+2_5V_D_ARIA
V+VDDIO_ARIA_DDR_A
DDR SDRAM
EDD1232ABBH-5C-E-
IC8201
IC8203
V+VDDIO_ARIA_DDR_C
DDR SDRAM
EDD1232ABBH-5C-E-
V+3_3V_A__AD
V+3_3V_A__AD_A
V+3_3V_A__AD_PLL
IC4401
3.3V Reg
NJM2846DL3-33-TLB
V+3_3V_A
Q4409
FET SW
UPA1917TE-TRE
V+3_3V_A_VDEC
PDP-428XDA,PDP-508XDA Only
CN4014
V+5_1V
V+12V
V+6_5V
V+3_3V_UCOM
A
B
C
D
E
F

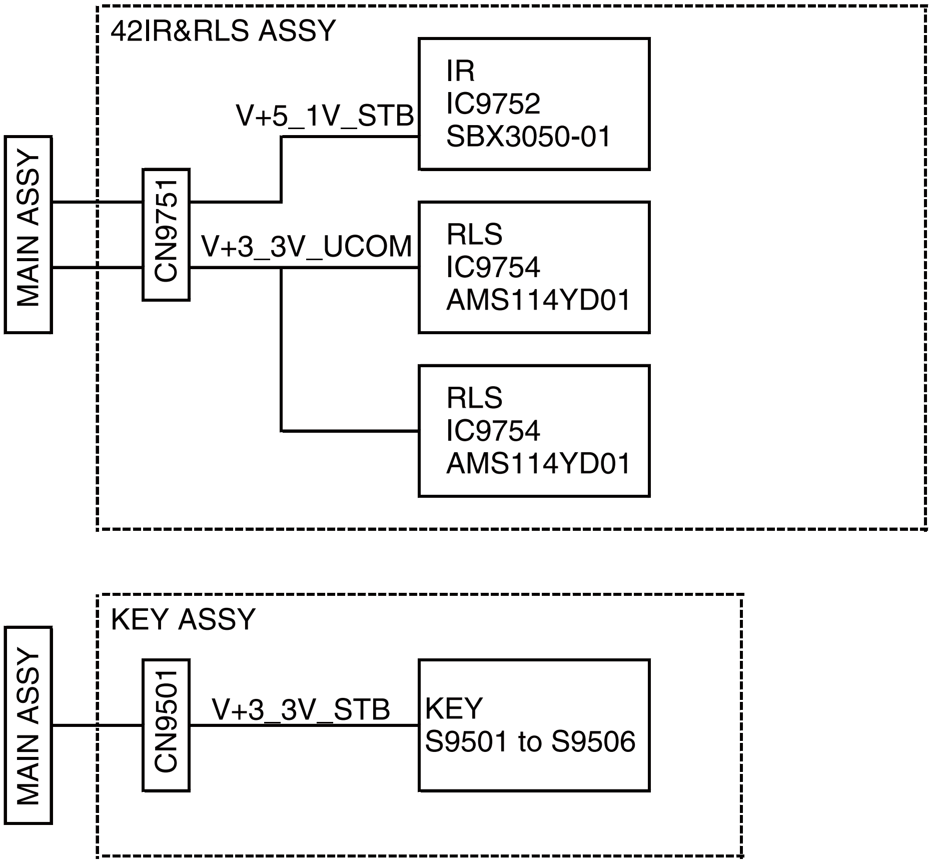

CN4106
V+35V
V+3_3V_STB
IC8301
IF UCOM
AGC1037- -PI-K
(M30620FCSGP-U5-K
Q4512
FET SW
RSS090P03-TBB
V+3_3V_ACT
V+3_3V_UCOM_VBI
IC6301
VBI SLICER
TC90173FG-K
IC4501
DDC
LTC3407EMSE-
2-TBB
V+2_5V_UCOM
V+2_5V_UCOM2
V+2_5V_UCOM_VBI
IC8601
V+2_5V_UCOM_DDR
DDR DRAM
1:K4H511638D-UCB3-K
2:EDD5116AFTA-6B-E-K
3:HY5DU121622CTP-J
IC8401
V+2_5V_EMMA
EMMA2
UPD61123F1-
100KA3A-K
V+1_5V_UCOM
V+1_5V_UCOM_EMMA
Q4511
FET SW
RTQ040P02-TLB
V+3_3V_UCOM_USB
V+3_3V_UCOM
IC8602
EMMA2 FLASH ROM
AGC1042- -PI-K
(S29GL032A90TFIR4-
V+3_3V_UCOM_ROM
Q4505
FET SW
MCH3406-TLB
V+1_5V_UCOM2
V+1_5V_UCOM_VBI
IC6401
V+1_5V_UCOM_USB
V+1_5V_UCOM_USB_D
V+1_5V_UCOM_USB_A
V+3_3V_UCOM_USB_D
V+3_3V_UCOM_USB_A
USB CONROLLER
M66596FP-K
V+5_1V_STB
IC4801
V+1_8V_A_VDEC_D
V+1_8V_A_VDEC_PLL
V+3_3V_D2_VDEC_D
VDEC
CM0048BF-K
V+3_3V_A_VDEC_A

3.5 TANSHI ASSY

TANSHI ASSY XGA BLOCK DIAGRAM


IO6
+16.5V
IO5
+8V
+3.3V
+16.5V
+12V
REGULATOR
IC9181
NJM78M12DL1A
+3.3V
+1.8V
REGULATOR
IC9191
NJM2846DL3
+16.5V
PWM
DIGITAL AMP IC
IC9201
TAS5122DCA
MSP IC
IC9101
MSP5651M
+3.3V
+1.8V
*PDP-428XDA,PDP-508XDA only
OPT_OUT
OPTICAL OUT
IO4
SUB WOOFER OUT
MONITOR OUT
OUTPUT(AUDIO)
OUTPUT(VIDEO)
for MAIN ASSY
INPUT(AUDIO)
INPUT(VIDEO)
LPF
IO3
IO1
INPUT1
INPUT2
INPUT3
INPUT6
PC AUDIO
AIR_SIF
SCL
SDA
RST_MSP
INPUT6
for SIDE IO ASSY
DC
DETECT
BLOCK
I2S_EMMA
SPDIF_EMMA
*PDP-508XDA,PDP-428XDA only
IO2
HP
for SIDE IO ASSY
R_OUT+
R_OUT-
L_OUT-
L_OUT+
SPDIF_HDMI
OTW
A_NG_B
for MAIN ASSY
IO8
IO9
R OUT
L OUT
SP TERMINAL
42inch only
50inch only
TANSHI ASS'Y

3.6 POWER SUPPLY BLOCK of 42IR (42RLS&IR) and SIDE KEY ASSYS


42IR&RLS ASSY
MAIN ASSY
CN9751
V+5_1V_STB
V+3_3V_UCOM
IR
IC9752
SBX3050-01
RLS
IC9754
AMS114YD01
RLS
IC9754
AMS114YD01
KEY ASSY
MAIN ASSY
CN9501
V+3_3V_STB
KEY
S9501 to S9506

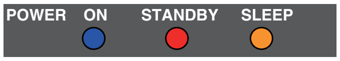
4. DIAGNOSIS

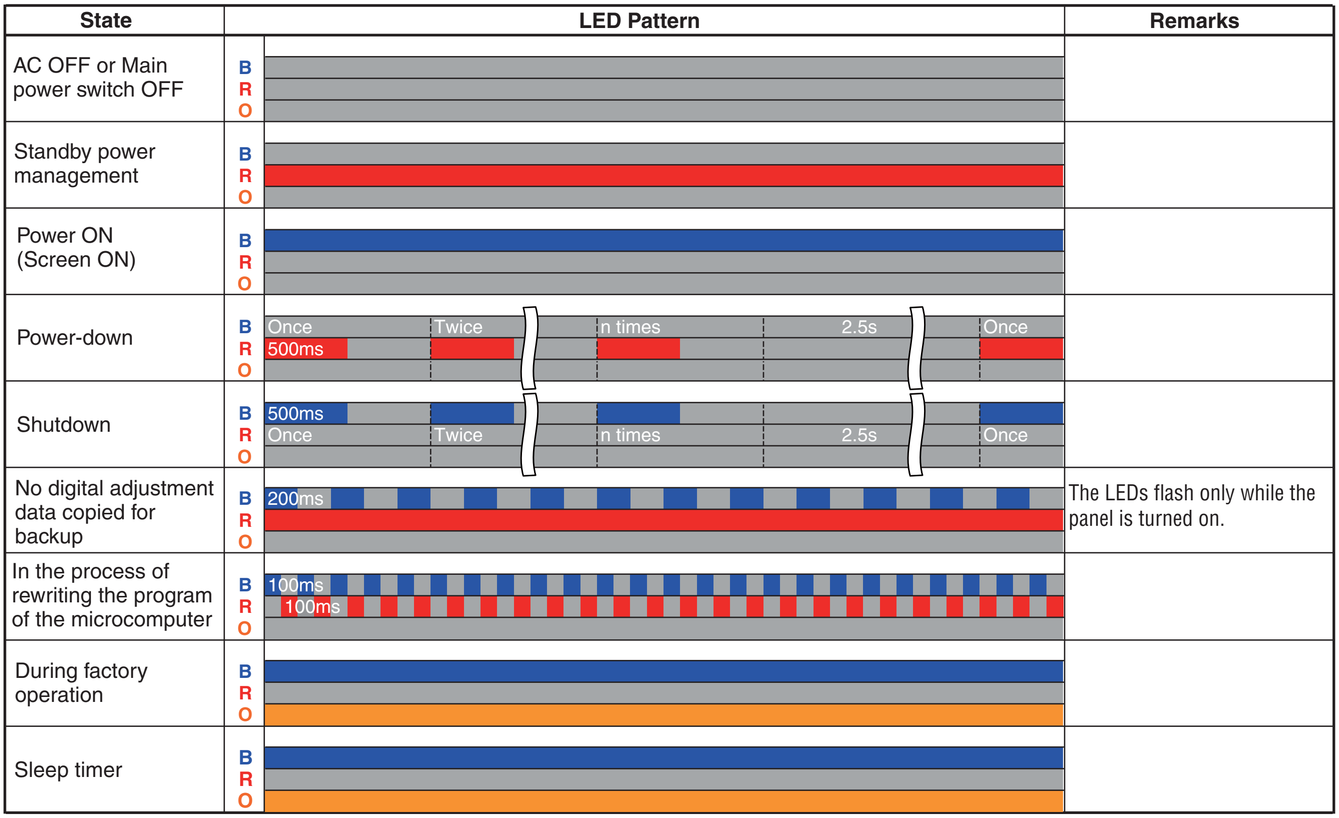
DIAGNOSIS of PDP-428XG/DLFT,PDP-428XDA/YP and PDP-428XC/WA5 is the same as PDP-4280XA/WYV5 except for the following:

4.1 POWER SUPPLY OPERATION

4.1.1 LED DISPLAY INFORMATION

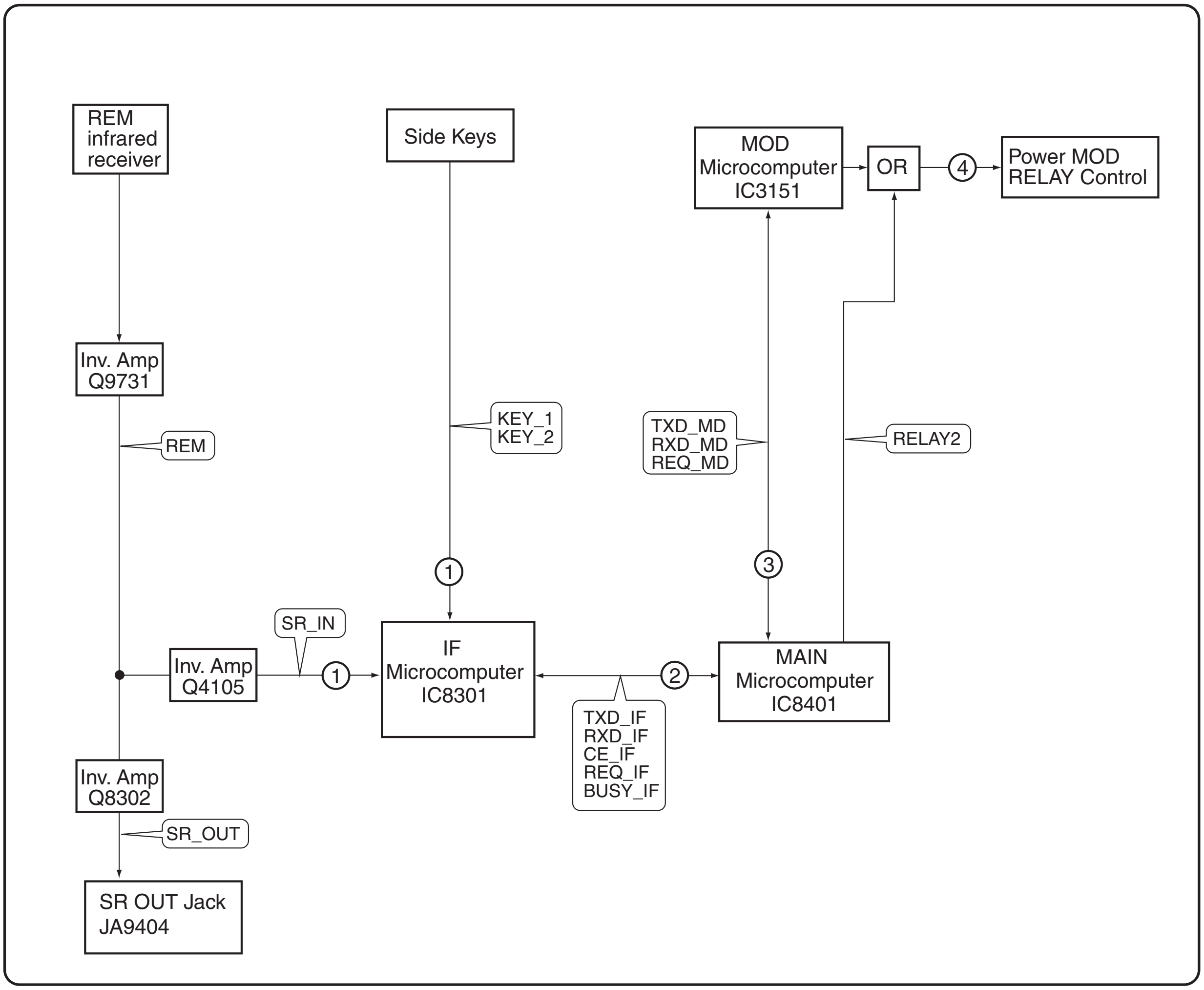
■ LED Pattern





State	LED Pattern	Remarks
AC OFF or Main power switch OFF	B R O	
Standby power management	B R 🟥 O	
Power ON (Screen ON)	B 🟦 R O	
Power-down	B Once Twice n times 2.5s Once R 500ms O	
Shutdown	B 500ms R Once Twice n times 2.5s Once O	
No digital adjustment data copied for backup	B 200ms R 🟥 O	The LEDs flash only while the panel is turned on.
In the process of rewriting the program of the microcomputer	B 100ms R 100ms O	
During factory operation	B 🟦 R O 🟧	
Sleep timer	B 🟦 R O 🟧	

4.1.2 POWER ON SEQUENCE


REM infrared receiver
Side Keys
MOD Microcomputer IC3151
OR
④
Power MOD RELAY Control
Inv. Amp Q9731
REM
KEY_1
KEY_2
TXD_MD
RXD_MD
REQ_MD
RELAY2
①
③
SR_IN
Inv. Amp Q4105
①
IF Microcomputer IC8301
②
MAIN Microcomputer IC8401
TXD_IF
RXD_IF
CE_IF
REQ_IF
BUSY_IF
Inv. Amp Q8302
SR_OUT
SR OUT Jack JA9404

① : The remote control (or KEY) signal is input to the IF microcomputer.
② : The IF microcomputer sends the operation data of the remote control unit (or KEY) to the main microcomputer.
③ : The main microcomputer issues a startup command (PON) to the MOD microcomputer.
④ : The relay is controlled with logical OR interpretation of control signals by the main microcomputer and module (MOD) microcomputer.

4.1.3 DETAILS OF POWER ON SEQUENCE

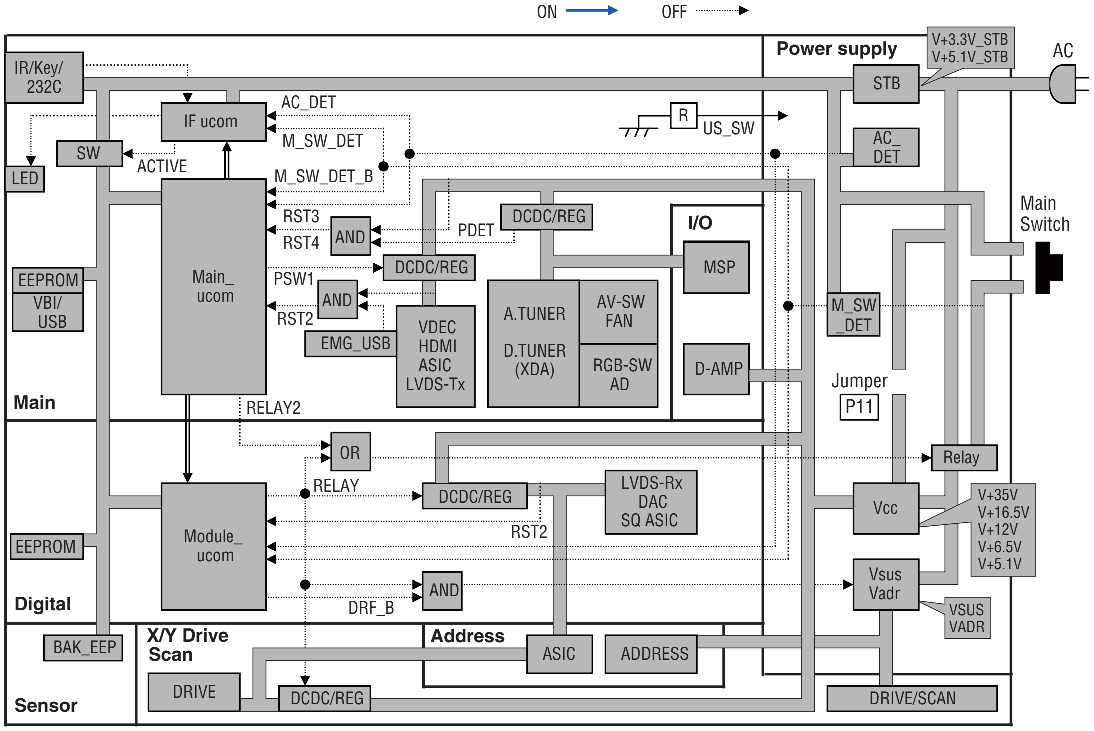
Power supply status - AC off

Microcomputer output port state

IF: ACTIVE	OFF
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF


ON
OFF
IR/Key/ 232C
IF ucom
AC_DET
M_SW_DET
M_SW_DET_B
SW
ACTIVE
LED
Main_ ucom
RST3
RST4
AND
PSW1
AND
RST2
EMG_USB
DCDC/REG
DCDC/REG
PDET
VDEC HDMI ASIC LVDS-Tx
A.TUNER
D.TUNER (XDA)
AV-SW FAN
RGB-SW AD
I/O
MSP
D-AMP
EEPROM
VBI/ USB
Main
RELAY2
R
US_SW
Power supply
STB
AC_ DET
V+3.3V_STB V+5.1V_STB
AC
Main Switch
M_SW _DET
Jumper
P11
OR
Relay
RELAY
DCDC/REG
LVDS-Rx DAC SQ ASIC
RST2
Module_ ucom
EEPROM
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
AND
DRF_B
Vsus Vadr
VSUS VADR
Digital
BAK_EEP
X/Y Drive Scan
DRIVE
DCDC/REG
Address
ASIC
ADDRESS
DRIVE/SCAN
Sensor

The state of AC cord is pulled out.

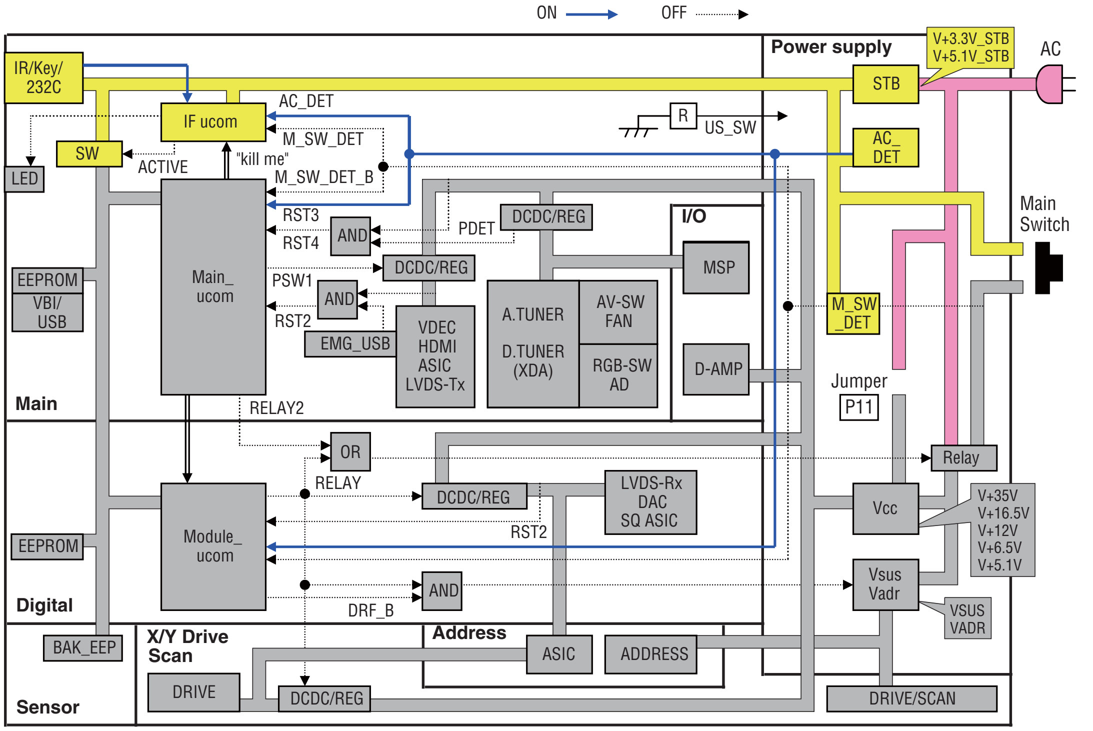
Power supply status - Passive standby (Main switch off)

Microcomputer output port state

IF: ACTIVE	OFF
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF


ON
OFF
IR/Key/ 232C
IF ucom
AC_DET
M_SW_DET
"kill me"
M_SW_DET_B
SW
ACTIVE
LED
Main_ ucom
RST3
RST4
AND
PSW1
AND
RST2
EMG_USB
DCDC/REG
DCDC/REG
PDET
VDEC HDMI ASIC LVDS-Tx
A.TUNER
D.TUNER (XDA)
AV-SW FAN
RGB-SW AD
I/O
MSP
D-AMP
EEPROM
VBI/ USB
Main
RELAY2
R
US_SW
Power supply
STB
AC_ DET
V+3.3V_STB V+5.1V_STB
AC
Main Switch
M_SW _DET
Jumper
P11
OR
Relay
RELAY
DCDC/REG
LVDS-Rx DAC SQ ASIC
RST2
Module_ ucom
EEPROM
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
AND
DRF_B
Vsus Vadr
VSUS VADR
Digital
BAK_EEP
X/Y Drive Scan
DRIVE
DCDC/REG
Address
ASIC
ADDRESS
DRIVE/SCAN
Sensor

The user operation is invalid. (All LED: OFF)
Among standby power devices, only the IF microcomputer periphery operates.

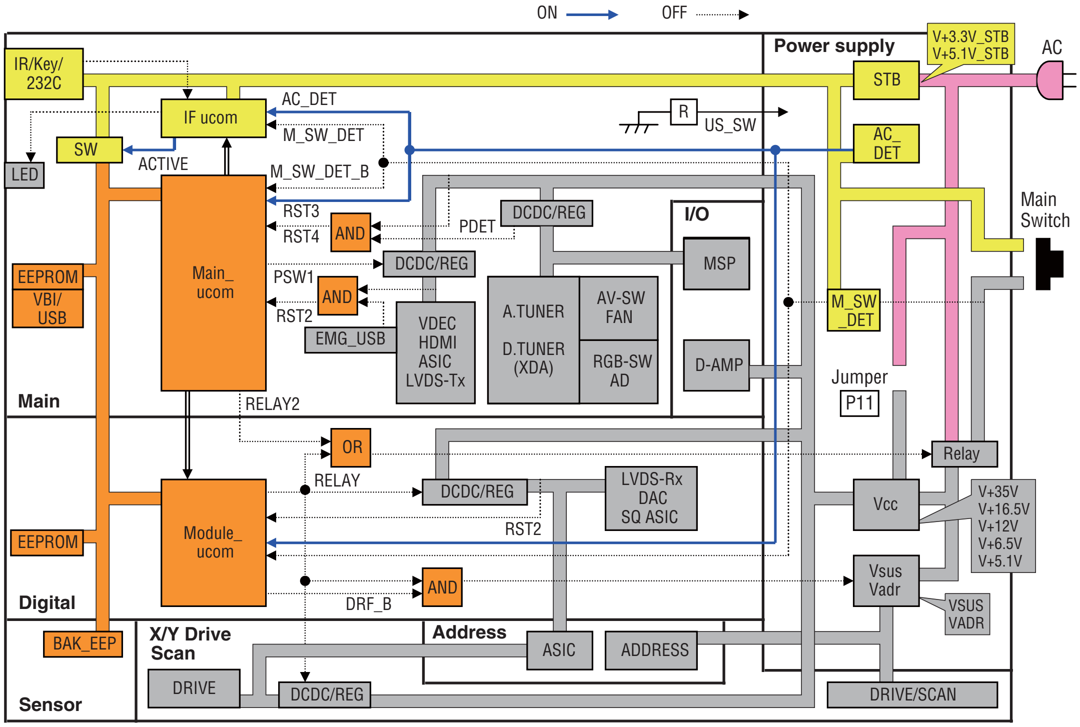
Power supply status - Active standby (Main switch off)

Microcomputer output port state

IF: ACTIVE	ON
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF


ON
OFF
Power supply
V+3.3V_STB
V+5.1V_STB
AC
STB
AC_DET
Main Switch
M_SW_DET
Jumper
P11
Relay
Vcc
V+35V
V+16.5V
V+12V
V+6.5V
V+5.1V
Vsus
Vadr
VSUS
VADR
IR/Key/
232C
IF ucom
AC_DET
M_SW_DET
M_SW_DET_B
SW
ACTIVE
LED
R
US_SW
RST3
RST4
AND
PDET
DCDC/REG
I/O
MSP
PSW1
RST2
EEPROM
VBI/
USB
Main_
ucom
EMG_USB
VDEC
HDMI
ASIC
LVDS-Tx
A.TUNER
D.TUNER
(XDA)
AV-SW
FAN
RGB-SW
AD
D-AMP
Main
RELAY2
OR
RELAY
LVDS-Rx
DAC
SQ ASIC
Module_
ucom
DRF_B
Digital
BAK_EEP
X/Y Drive
Scan
Address
ASIC
ADDRESS
DRIVE
DRIVE/SCAN
Sensor

The user operation is invalid. (All LED: OFF)
Standby power devices (periphery of IF/Main/Module microcomputer) operate.

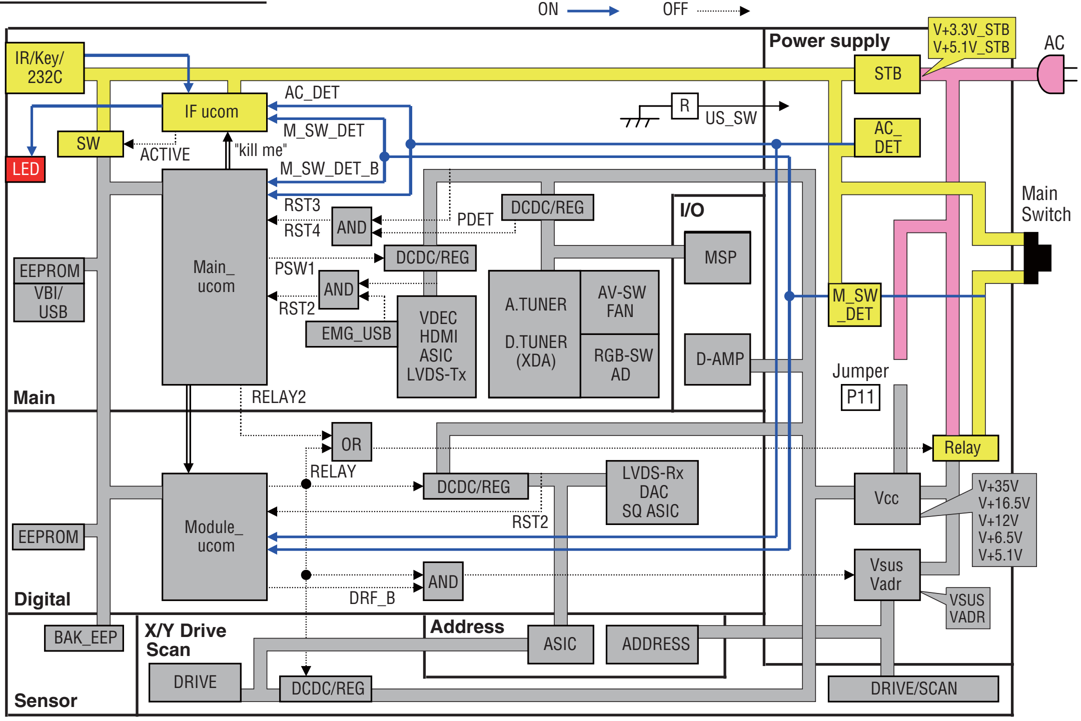
Power supply status - Passive standby

Microcomputer output port state

IF: ACTIVE	OFF
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF


ON
OFF
Power supply
V+3.3V_STB
V+5.1V_STB
AC
STB
AC_DET
Main Switch
M_SW_DET
Jumper
P11
Relay
Vcc
V+35V
V+16.5V
V+12V
V+6.5V
V+5.1V
Vsus
Vadr
VSUS
VADR
IR/Key/
232C
IF ucom
AC_DET
M_SW_DET
"kill me"
M_SW_DET_B
SW
ACTIVE
LED
R
US_SW
RST3
RST4
AND
PDET
DCDC/REG
I/O
MSP
PSW1
RST2
EEPROM
VBI/
USB
Main_
ucom
EMG_USB
VDEC
HDMI
ASIC
LVDS-Tx
A.TUNER
D.TUNER
(XDA)
AV-SW
FAN
RGB-SW
AD
D-AMP
Main
RELAY2
OR
RELAY
LVDS-Rx
DAC
SQ ASIC
Module_
ucom
DRF_B
Digital
BAK_EEP
X/Y Drive
Scan
Address
ASIC
ADDRESS
DRIVE
DRIVE/SCAN
Sensor

Remote control unit waiting state. (Red LED: ON)
Among standby power devices, only the IF microcomputer periphery operates.

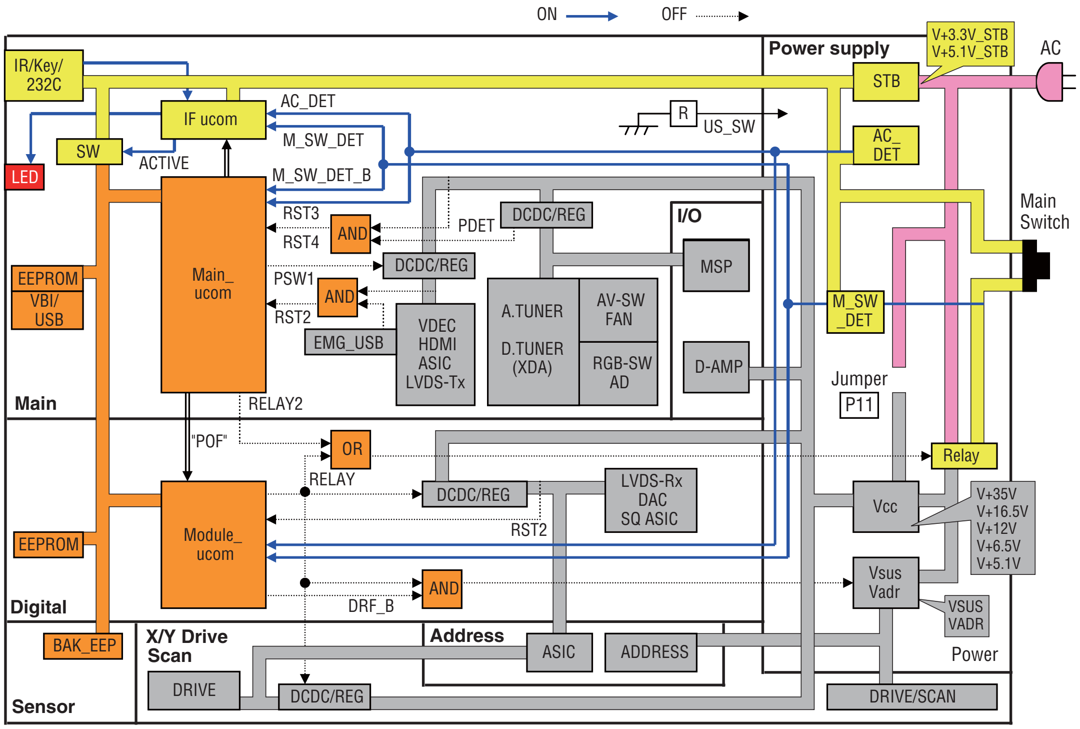
Power supply status - Active standby

Microcomputer output port state

IF: ACTIVE	ON
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF


ON
OFF
IR/Key/ 232C
IF ucom
AC_DET
M_SW_DET
M_SW_DET_B
SW
ACTIVE
LED
Main_ ucom
RST3
RST4
AND
PSW1
AND
RST2
PDET
DCDC/REG
DCDC/REG
EMG_USB
VDEC HDMI ASIC LVDS-Tx
A.TUNER
D.TUNER (XDA)
AV-SW FAN
RGB-SW AD
I/O
MSP
D-AMP
EEPROM
VBI/ USB
Main
RELAY2
"POF"
OR
RELAY
DCDC/REG
LVDS-Rx DAC SQ ASIC
RST2
EEPROM
Module_ ucom
AND
DRF_B
Digital
BAK_EEP
X/Y Drive Scan
Address
ASIC
ADDRESS
DRIVE
DCDC/REG
Sensor
Power supply
V+3.3V_STB V+5.1V_STB
AC
STB
R
US_SW
AC_ DET
Main Switch
M_SW _DET
Jumper
P11
Relay
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
Vsus Vadr
VSUS VADR
Power
DRIVE/SCAN

Remote control unit waiting state. (Red LED: ON)
Standby power devices (periphery of IF/Main/Module microcomputer) operate.

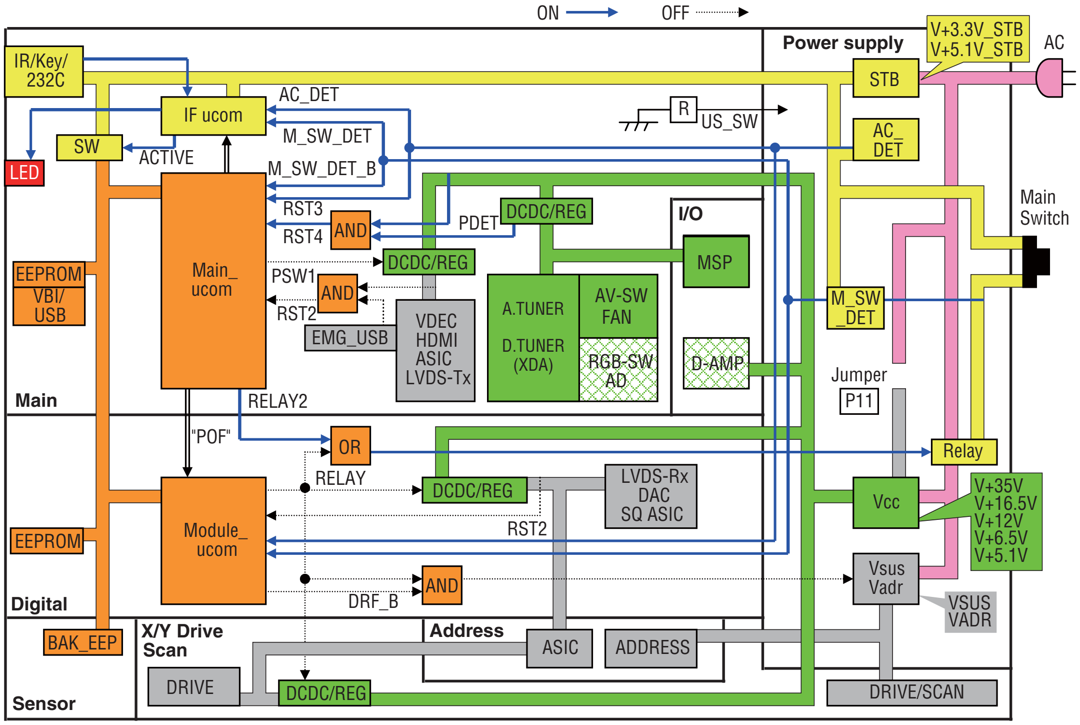
Power supply status - Functional standby

Microcomputer output port state

IF: ACTIVE	ON
Main: RELAY2	ON
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	ON
Main: RST2	OFF
Module: RST2	OFF


ON
OFF
IR/Key/ 232C
IF ucom
AC_DET
M_SW_DET
M_SW_DET_B
SW
ACTIVE
LED
Main_ ucom
RST3
RST4
AND
PSW1
AND
RST2
PDET
DCDC/REG
DCDC/REG
EMG_USB
VDEC HDMI ASIC LVDS-Tx
A.TUNER
D.TUNER (XDA)
AV-SW FAN
RGB-SW AD
I/O
MSP
D-AMP
EEPROM
VBI/ USB
Main
RELAY2
"POF"
OR
RELAY
DCDC/REG
LVDS-Rx DAC SQ ASIC
RST2
EEPROM
Module_ ucom
AND
DRF_B
Digital
BAK_EEP
X/Y Drive Scan
Address
ASIC
ADDRESS
DRIVE
DCDC/REG
Sensor
Power supply
V+3.3V_STB V+5.1V_STB
AC
STB
R
US_SW
AC_ DET
Main Switch
M_SW _DET
Jumper
P11
Relay
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
Vsus Vadr
VSUS VADR
DRIVE/SCAN

Remote control unit waiting state. (Red LED: ON)
Standby power device and some Vcc power devices operate.
RGB-SW/AD/D-AMP are electrified, but uses the power-saving mode function of the IC.

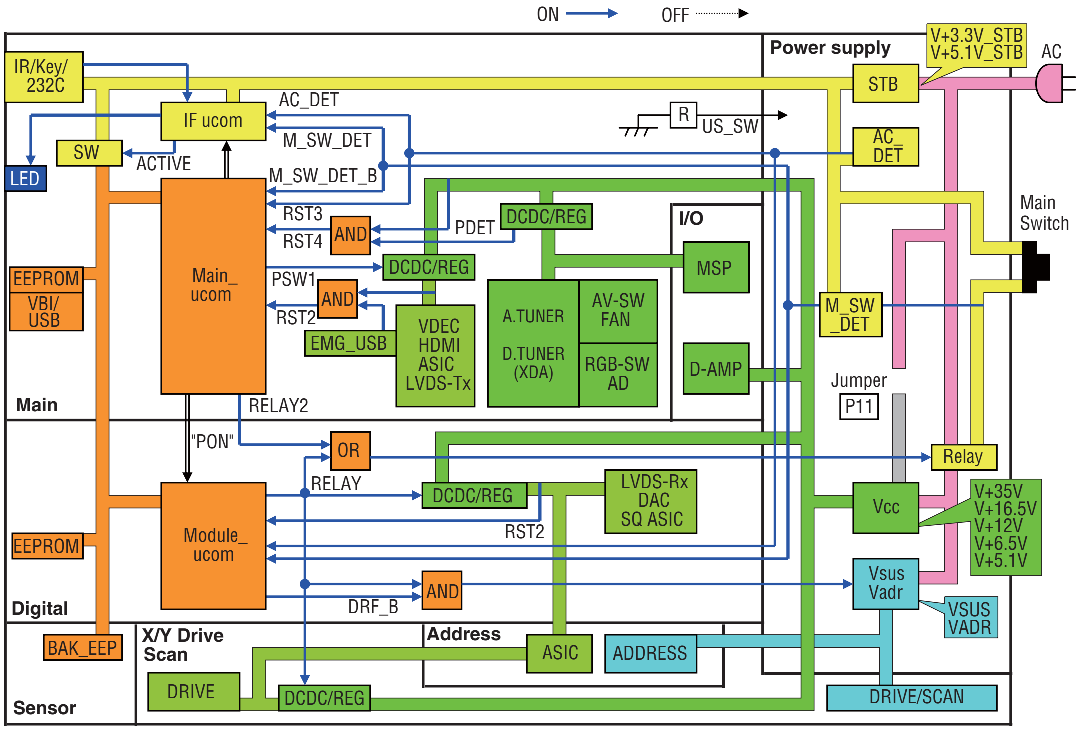
Power supply status - ON

Microcomputer output port state

IF: ACTIVE	**ON**
Main: RELAY2	**ON**
Main: PSW1	**ON**
Module: RELAY	**ON**
Module: DRF_B	**ON**

Microcomputer input port state

Main: RST4	**ON**
Main: RST2	**ON**
Module: RST2	**ON**



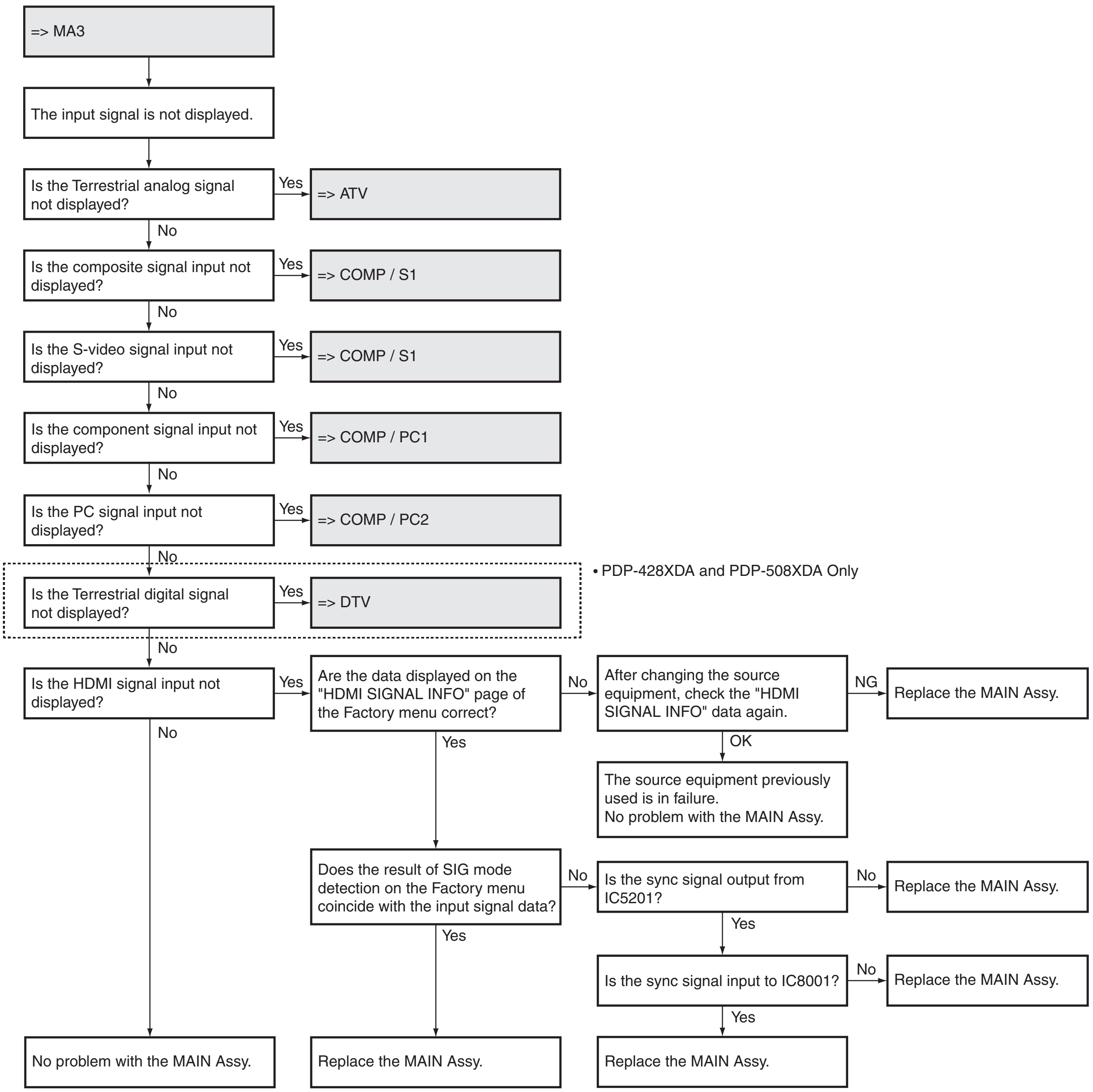
ON
OFF
Power supply
V+3.3V_STB
V+5.1V_STB
AC
IR/Key/ 232C
IF ucom
AC_DET
STB
R
US_SW
SW
ACTIVE
M_SW_DET
AC_DET
LED
M_SW_DET_B
Main Switch
RST3
RST4
AND
PDET
DCDC/REG
I/O
EEPROM
VBI/ USB
Main_ ucom
PSW1
DCDC/REG
MSP
AND
RST2
VDEC HDMI ASIC LVDS-Tx
A.TUNER
D.TUNER (XDA)
AV-SW FAN
RGB-SW AD
M_SW _DET
EMG_USB
D-AMP
Jumper
P11
Main
RELAY2
"PON"
OR
Relay
RELAY
DCDC/REG
LVDS-Rx DAC SQ ASIC
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
EEPROM
Module_ ucom
RST2
AND
Vsus Vadr
DRF_B
VSUS VADR
Digital
BAK_EEP
X/Y Drive Scan
Address
ASIC
ADDRESS
DRIVE
DCDC/REG
DRIVE/SCAN
Sensor

A state when it displays a picture on the PDP. (Blue LED: ON)
All devices are electrified.

4.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS

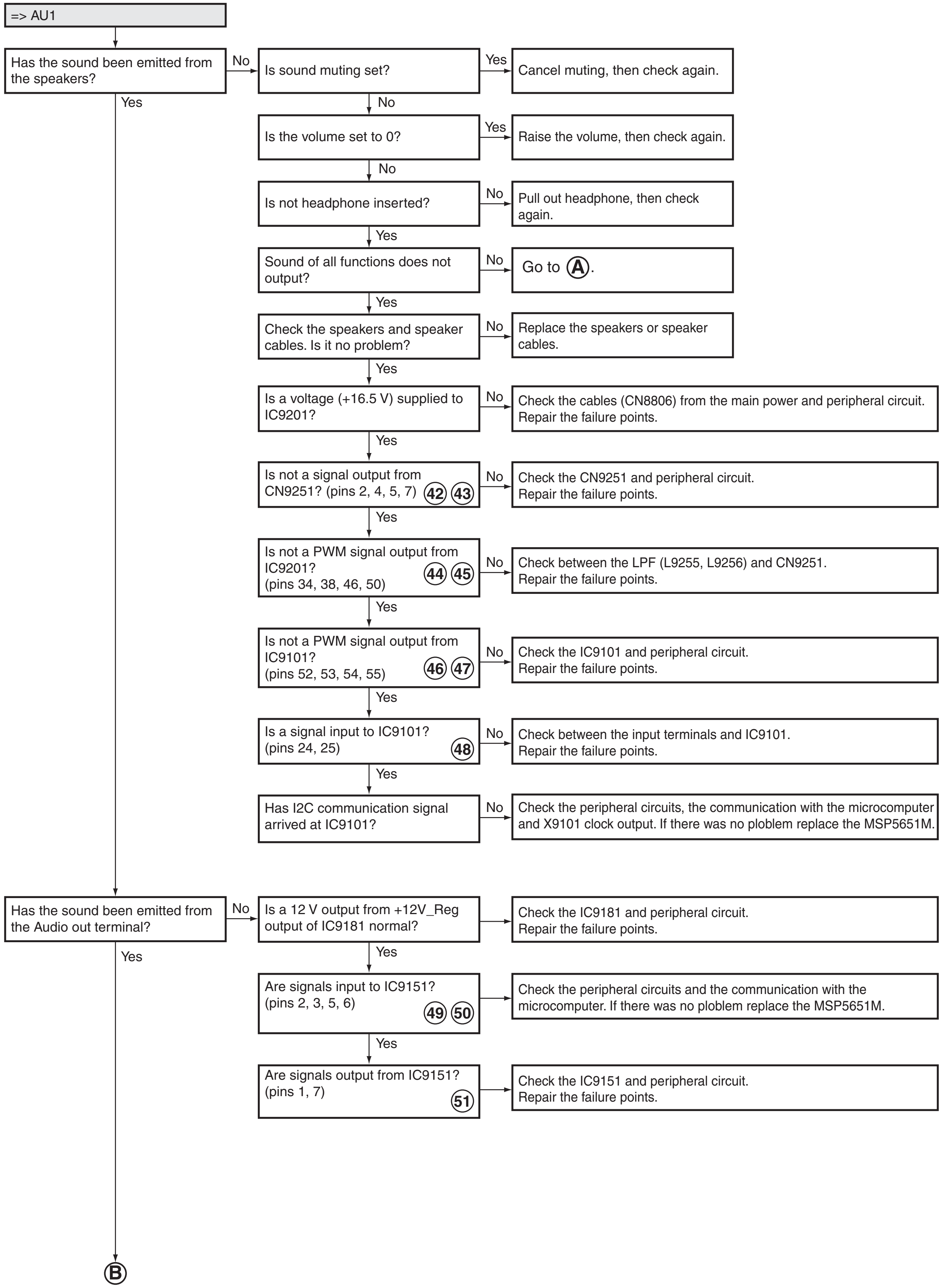
4.2.1 VIDEO SYSTEM

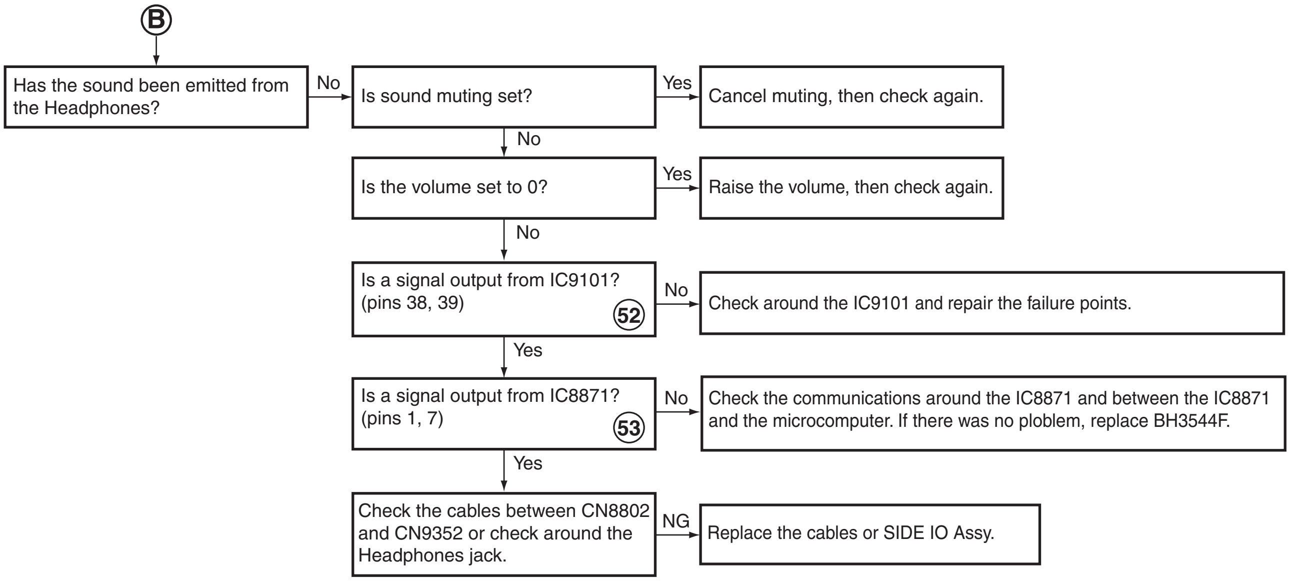
Flowchart of Failure Analysis for The Video System


=> MA3
The input signal is not displayed.
Is the Terrestrial analog signal not displayed?
Yes
=> ATV
No
Is the composite signal input not displayed?
Yes
=> COMP / S1
No
Is the S-video signal input not displayed?
Yes
=> COMP / S1
No
Is the component signal input not displayed?
Yes
=> COMP / PC1
No
Is the PC signal input not displayed?
Yes
=> COMP / PC2
No
• PDP-428XDA and PDP-508XDA Only
Is the Terrestrial digital signal not displayed?
Yes
=> DTV
No
Is the HDMI signal input not displayed?
Yes
Are the data displayed on the "HDMI SIGNAL INFO" page of the Factory menu correct?
No
After changing the source equipment, check the "HDMI SIGNAL INFO" data again.
NG
Replace the MAIN Assy.
OK
The source equipment previously used is in failure. No problem with the MAIN Assy.
Yes
Does the result of SIG mode detection on the Factory menu coincide with the input signal data?
No
Is the sync signal output from IC5201?
No
Replace the MAIN Assy.
Yes
Is the sync signal input to IC8001?
No
Replace the MAIN Assy.
Yes
Replace the MAIN Assy.
Yes
Replace the MAIN Assy.
No
No problem with the MAIN Assy.

4.2.2 AUDIO SYSTEM

Flowchart of Failure Analysis for The Audio System

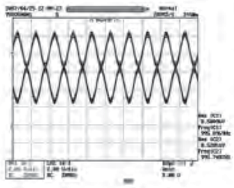

=> AU1
Has the sound been emitted from the speakers?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is not headphone inserted?
No
Pull out headphone, then check again.
Yes
Sound of all functions does not output?
No
Go to Ⓐ.
Yes
Check the speakers and speaker cables. Is it no problem?
No
Replace the speakers or speaker cables.
Yes
Is a voltage (+16.5 V) supplied to IC9201?
No
Check the cables (CN8806) from the main power and peripheral circuit. Repair the failure points.
Yes
Is not a signal output from CN9251? (pins 2, 4, 5, 7) (42) (43)
No
Check the CN9251 and peripheral circuit. Repair the failure points.
Yes
Is not a PWM signal output from IC9201? (pins 34, 38, 46, 50) (44) (45)
No
Check between the LPF (L9255, L9256) and CN9251. Repair the failure points.
Yes
Is not a PWM signal output from IC9101? (pins 52, 53, 54, 55) (46) (47)
No
Check the IC9101 and peripheral circuit. Repair the failure points.
Yes
Is a signal input to IC9101? (pins 24, 25) (48)
No
Check between the input terminals and IC9101. Repair the failure points.
Yes
Has I2C communication signal arrived at IC9101?
No
Check the peripheral circuits, the communication with the microcomputer and X9101 clock output. If there was no ploblem replace the MSP5651M.
Yes
Has the sound been emitted from the Audio out terminal?
No
Is a 12 V output from +12V_Reg output of IC9181 normal?
Check the IC9181 and peripheral circuit. Repair the failure points.
Yes
Are signals input to IC9151? (pins 2, 3, 5, 6) (49) (50)
Check the peripheral circuits and the communication with the microcomputer. If there was no ploblem replace the MSP5651M.
Yes
Are signals output from IC9151? (pins 1, 7) (51)
Check the IC9151 and peripheral circuit. Repair the failure points.
Yes
Ⓑ


B
Has the sound been emitted from the Headphones?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is a signal output from IC9101? (pins 38, 39)
52
No
Check around the IC9101 and repair the failure points.
Yes
Is a signal output from IC8871? (pins 1, 7)
53
No
Check the communications around the IC8871 and between the IC8871 and the microcomputer. If there was no ploblem, replace BH3544F.
Yes
Check the cables between CN8802 and CN9352 or check around the Headphones jack.
NG
Replace the cables or SIDE IO Assy.

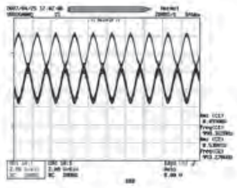
- **Waveforms**

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

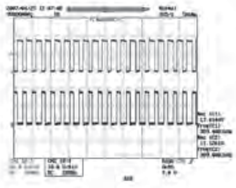
(42) CN9251 - pins 2, 4
V: 2 V/div H: 1 mS/div



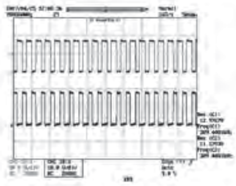
(43) CN9251 - pins 5, 7
V: 2 V/div H: 1 mS/div



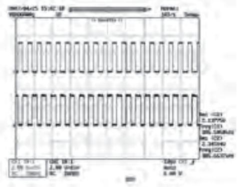
(44) IC9201 - pins 34, 38
V: 10 V/div H: 5 µS/div



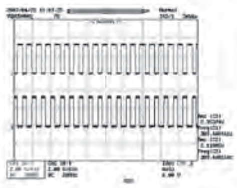
(45) IC9201 - pins 44, 52
V: 10 V/div H: 5 µS/div



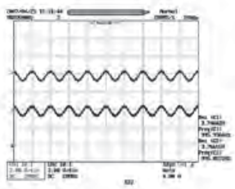
(46) IC9101 - pins 52, 53
V: 2 V/div H: 5 µS/div



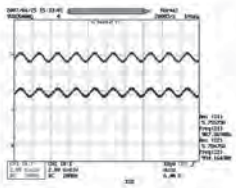
(47) IC9101 - pins 54, 55
V: 2 V/div H: 5 µS/div



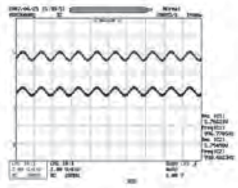
(48) IC9101 - pins 24, 25
V: 2 V/div H: 1 mS/div



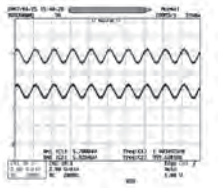
(49) IC9151 - pins 2, 3
V: 2 V/div H: 1 mS/div



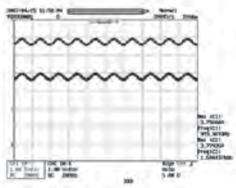
(50) IC9151 - pins 5, 6
V: 2 V/div H: 1 mS/div



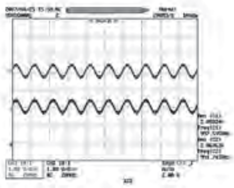
(51) IC9151 - pin 1, etc.
V: 2 V/div H: 1 mS/div

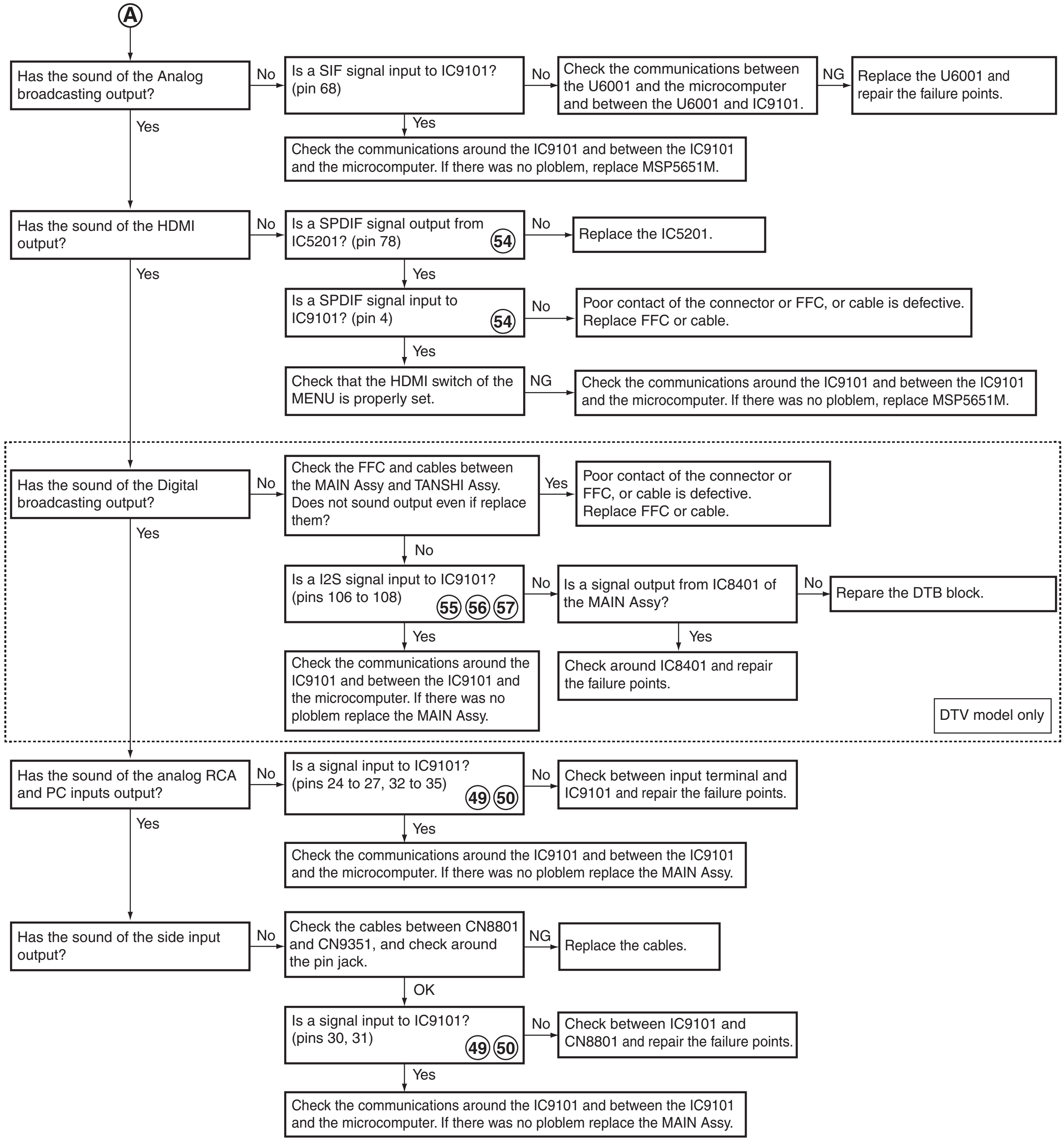


(52) IC9101 - pins 38, 39
V: 1 V/div H: 1 mS/div



(53) IC8871 - pins 1, 7
V: 1 V/div H: 1 mS/div

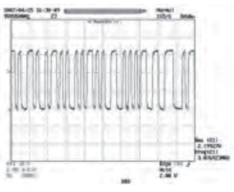



A
Has the sound of the Analog broadcasting output?
No
Is a SIF signal input to IC9101? (pin 68)
No
Check the communications between the U6001 and the microcomputer and between the U6001 and IC9101.
NG
Replace the U6001 and repair the failure points.
Yes
Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem, replace MSP5651M.
Yes
Has the sound of the HDMI output?
No
Is a SPDIF signal output from IC5201? (pin 78) (54)
No
Replace the IC5201.
Yes
Is a SPDIF signal input to IC9101? (pin 4) (54)
No
Poor contact of the connector or FFC, or cable is defective. Replace FFC or cable.
Yes
Check that the HDMI switch of the MENU is properly set.
NG
Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem, replace MSP5651M.
Yes
Has the sound of the Digital broadcasting output?
No
Check the FFC and cables between the MAIN Assy and TANSHI Assy. Does not sound output even if replace them?
Yes
Poor contact of the connector or FFC, or cable is defective. Replace FFC or cable.
No
Is a I2S signal input to IC9101? (pins 106 to 108) (55) (56) (57)
No
Is a signal output from IC8401 of the MAIN Assy?
No
Repare the DTB block.
Yes
Check around IC8401 and repair the failure points.
Yes
Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.
DTV model only
Yes
Has the sound of the analog RCA and PC inputs output?
No
Is a signal input to IC9101? (pins 24 to 27, 32 to 35) ㊾ ㊿
No
Check between input terminal and IC9101 and repair the failure points.
Yes
Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.
Yes
Has the sound of the side input output?
No
Check the cables between CN8801 and CN9351, and check around the pin jack.
NG
Replace the cables.
OK
Is a signal input to IC9101? (pins 30, 31) ㊾ ㊿
No
Check between IC9101 and CN8801 and repair the failure points.
Yes
Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.

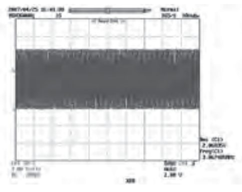
• Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

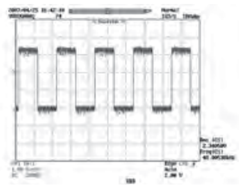
(54) **IC5201 - pin 78**
V: 1 V/div H: 1 µS/div



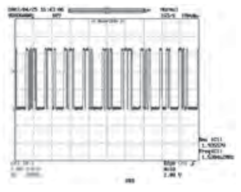
(55) **IC9101 - pin 106**
V: 1 V/div H: 10 µS/div



(56) **IC9101 - pin 107**
V: 1 V/div H: 10 µS/div



(57) **IC9101 - pin 108**
V: 1 V/div H: 10 µS/div



4.3 DIAGNOSIS OF SD (SHUTDOWN)

4.3.1 SD (SHUTDOWN) DIAGNOSIS

Frequency of LED Flashing	Major Type	Detailed Type	Log Indication in Factory Mode		Checkpoint	Possible Defective Part	Remarks
			MAIN	SUB			
Blue 1	Abnormality in the Sequence LSI	Communication error	SQ-LSI	RTRY	CLK_SQ/TXD_SQ, etc.	IC3401, IC3151	SQ_IC communication not established. IC3401 may not have properly started up.
		Drive stop		SQNO	Check if the video sync signal is input to IC3401.	CN3001, IC3001,IC3401	A shutdown occurs if IC3401 has not properly started up (a communication failure between IC3401 and IC3306 [FLASH]).
		Busy		BUSY	BUSY_SQ	IC3401, IC3151	If BUSY_SQ remains high, a shutdown is generated.
		Incoherent version (hardware, software)		VER-HS	Check the model number of the DIGITAL Assy and the destination of SEQ-PROS.	IC3306, IC3151	The written SEQ-PROG is incoherent with data on the DIGITAL Assy.
		Incoherent version (memory, software)		VER-MS	Check the model number of the DIGITAL Assy and the destination of SEQ-PROS.	IC3306, IC3151	A shutdown occurs if the SEQ-PROG that has been stored in backup memory does not coincide with the actual SEQ-PROG.
Blue 2	Failure in IIC communication with the module microcomputer	DIGITAL Assy EEPROM	MD-IIC	EEPROM	IIC communication line of IC3156	IC3156, IC3151	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
		SENSOR Assy EEPROM		BACKUP	IIC communication line of IC3652	IC3652, IC3151	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
		DAC1		DAC1	IIC communication line of IC3157	IC3157, IC3151	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
		DAC2		DAC2	IIC communication line of IC3158	IC3158, IC3151	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
Blue 3	Abnormality in RST2 power decrease	–	RST2	–	Is the output voltage of the DC-DC converter low?	IC3602(BD9302FP)	If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds.
					The 12 V power is not output.	POWER SUPPLY Unit,FU3601	Check if V + 12 V is started. Also check if the FU3601 on the DIGITAL Assy has been melted.
Blue 4	Abnormality in panel temperature	–	TMP-NG	TMP-H	High temperature abnormality in the panel temperature sensor	SENSOR Assy (IC3651)	If TEMP1 that is read by the module microcomputer is 75°C or higher, a shutdown will be generated.
				TMP-L	Low temperature abnormality in the panel temperature sensor	SENSOR Assy (IC3651)	A shutdown occurs if the reading of TEMP1 detected by the module microcomputer is –20°C or less. Also check the connection with the SENSOR Assy.
Blue 5	Short-circuiting of the speakers / D-AMP temperature abnormality	–	AUDIO	–	Speaker terminals	CN9251	Check if any speaker cable is in contact with the chassis.
					AUDIO_AMP	IC9201, IC9101	Check if the AMP output is short-circuited.
					Periphery of the cable between IO3 and M8, and IO6 and P5	CN8803,CN4001,CN8806,P5	Check if cables are firmly connected.
Blue 6	Failure in communication with the module microcomputer	–	MODULE	–	Communication line between MAIN and MOD	IC3151, IC8401	Check the communication lines (TXD_MOD/RXD_MOD/REQ_MOD).
					Periphery of the cable between D11 and M1	CN3001, CN4101	Check if cables are firmly connected.
Blue 7	Failure in main microcomputer 3-wire serial communication	IF microcomputer	MA-3L	IF	Communication line between IF and MAIN	IC8301, IC8401	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
		MULTI processor		MULTI	Communication line between MULTI and MAIN	IC8001, IC8401	Check the communication lines (TXD_IC3/RXD_IC3).
Blue 8	Failure in IIC communication with the main microcomputer	Tuner 1	MA-IIC	FE1	IIC communication line between Tuner and MAIN	U6001,IC8401,IC6101	Check the communication lines (SCL_TU/SDA_TU or SCL_AV5/SDA_AV5).
		MSP/MAP		MSPMAP	IIC communication line between MSP/MAP and MAIN	IC9101, IC8401	Check the communication lines (SCL_AV/SDA_AV).
		AV switch		AV-SW	IIC communication line between AV-SW and MAIN	IC4601, IC8401	Check the communication lines (SCL_AV5/SDA_AV5).
		RGB switch		RGB-SW	IIC communication line between RGB-SW and MAIN	IC4701, IC8401	Check the communication lines (SCL_AV5/SDA_AV5).
		VDEC		VDEC	IIC communication line between M-VDEC and MAIN	IC4801, IC8401	Check the communication lines (SCL_MB/SDA_MB).
		VDEC SDRAM		SDRAM	IIC communication line between VDEC and SDRAM	IC4801, IC4802	Check the communication lines (SDRAM). Defective SDRAM
		AD/PLL		ADC	IIC communication line between ADC and MAIN	IC5001, IC8401	Check the communication lines (SCL_AV/SDA_AV).
		HDMI		HDMI	IIC communication line between HDMI_RX and MAIN	IC5201, IC8401	Check the communication lines (SCL_MB/SDA_MB).
Blue 9	Failure in communication with the main microcomputer	–	MAIN	–	Communication line between IF and MAIN	IC8301, IC8401	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Blue 10	FAN NG	FAN1	FAN	FAN1	Dirt attached to the fan motor	–	Check the fan(AXM1057).
					Periphery of the FAN CONNECT	AWW1290, AWW1329	FAN NG
					Periphery of the cable between FA1 and M5, FAN and M4, and FA2 and FA5	CN9551 to CN9555,CN4103,CN4108	Check if cables are firmly connected.
					Periphery of the fan control regulator	IC4310, IC4303	–
Blue 11	High temperature of the unit	–	TEMP2	–	Temperature sensor or its periphery	–	TEMP2 A shutdown occurs because of high temperature.
					Periphery of the temperature sensor	TH9091	TEMP2
					Periphery of the cable between IO4 and M6	CN8804, CN4004	Check if cables are firmly connected.
Blue 12	Digital Tuner (PDP-428XDA only)	DTV startup error	DTUNER	PS/RST	–	IC8401	Check if DTV antenna is short-circuited.
		DTV communication error		RETRY	–	–	–
Blue 13	Failure in the power supply	DC-DC Converter power decrease	RST-MA	M-DCDC	DC-DC converter or its periphery, RST2	IC4403, Q4404	Check if V + 3.3 V_D4 is started.
					EMG_USB	IC4309	Check if the voltage at a waveform check point is 5 V.
		POWER SUPPLY		RELAY	The 12 V power is not output, RST4	POWER SUPPLY Unit	Check if V + 12 V is started.
					The 6.5 V power is not output	POWER SUPPLY Unit	Check if V + 6.5 V is started.
					The 5.1 V power is not output	POWER SUPPLY Unit	Check if V + 5.1 V is started.
					EMG_DDC	DCDC converter	Check if the DCDC converter is overloaded.
					Periphery of the cable between P8 and M3	CN4105	Check if cables are firmly connected.
Blue 15	Main EEPROM	Main EEPROM communication error	MA-EEP	–	IIC communication line between EEPROM and MAIN	IC8404, IC8401	Check the communication lines (SCL_EP/SDA_EP).

4.4 NON-FAILURE INFORMATION

4.4.1 INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE

■Information on symptoms that do not constitute failure

Symptom	Cause, item to check, information
HDMI: Symptoms concerning the input format and settings	
The picture color for an INPUT 3 or 4 or 5 signal is not correct.	The color setting for INPUT 3 or 4 or 5 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB.
The video signal to INPUT 3 or 4 or 5 is not displayed, and a message is displayed.	A unsupported video signal is input.
The audio signal input to the INPUT 3 is not output. No HDMI signal is input.	The audio setting for INPUT 3 is any setting and a video signal is not input. If the audio setting is any setting to output an analog audio signal, the HDMI signal must be input. (If a DVI device is to be connected, use a DVI-HDMI conversion cable.) If the HDMI video signal is not input, the analog audio signal is not output.
No sound of signals to INPUT 3 or 4 or 5 is output.	The setting on the side of the HDMI output equipment is wrong. (Example: Dolby Digital)
The 1080p input signal is not displayed properly or at all, although the 1080i input signal is displayed properly.	Check that the connected cable supports HDMI Category 2. (As the clock frequency for the 1080p signal is triple that for the 1080i signal, signal degradation caused by a cable must not be neglected. A cable supporting HDMI Category 2 can be used for the 1080p signal. Although some conventional cables can support the 1080p signal, some others cannot.)
MONITOR video output	
The video output signal from the MONITOR output is deteriorated. Or when the video output signal from the MONITOR output is recorded, its playback picture is deteriorated.	The video signal output from the MONITOR output is Macrovision protected.
The video signal is not output when the component signal is input to INPUT 1 or 2.	The video signal is not output from the MONITOR output when the component signal is selected.
The video signal is not output when the video signal is input to INPUT 3 or 4 or 5.	The video signal is not output from the MONITOR output when the HDMI signal is selected.
MONITOR audio output	
The image displayed on the PDP is not synchronized with the sound from the MONITOR audio output.	The audio signal from the MONITOR output is synchronized with the video output signal from the MONITOR output.
DIGITAL OUT (PDP-428XDA only)	
Playback of the signal from the DIGITAL audio output connector is possible, but recording is not possible.	The video signal output from the DIGITAL connector is copy-protected.
The digital audio output signal from the DIGITAL connector is not synchronized with that from the MONITOR video output.	The digital audio output signal from the DIGITAL connector is synchronized with the video signal that is currently displayed, and not with the MONITOR video output.
Miscellaneous	
The no-signal off function is not activated.	The no-signal off and no-operation off functions are effective only if video (composite, S video, component, HDMI [excluding PC]) input or TV input is selected.
The no-operation off function is not activated.	
Power management does not function.	Power Management is effective only while an analog PC signal is being input. It is not effective with HDMI-PC signal input.
The AUTO SETUP function is not activated.	The Auto Setup function is effective only while an analog PC signal is being input. This function does not work if an analog PC signal is not input, even if the INPUT PC is selected.
The audio signal from the PC is not output.	Wrong connection of the cable to the SR connector is suspected.
Control via the SR connector is not possible.	Wrong connection of the cable to the PC INPUT (AUDIO) connector is suspected.
The picture-quality setting (AV Selection) is not stored.	The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored.
The picture size changes arbitrary.	The Auto Size setting is set to ON.
The display position of the screen changes slightly while the screen is on.	The orbiter function for minimizing the effects of phosphor burn is activated. Although the setting for this function can be changed on the Home menu, retaining the factory setting is strongly recommended.
The video signal to the S video connector is not displayed.	The component video cable is connected to the same input function as for the S video (even if no signal is input to the component video connector, merely having something plugged in to the connector will result in judgment that a signal is being fed in and the component video connector takes priority).(Priority of connectors: component video > S video > composite video)
The video signal to the composite video connector is not displayed.	The S Video or component video cable is connected to the same input function as for the composite video.(Priority of connectors : component video > S video > composite video)

SUPPLEMENT: On the video setting for HDMI

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.
(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)
It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.
In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVi, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

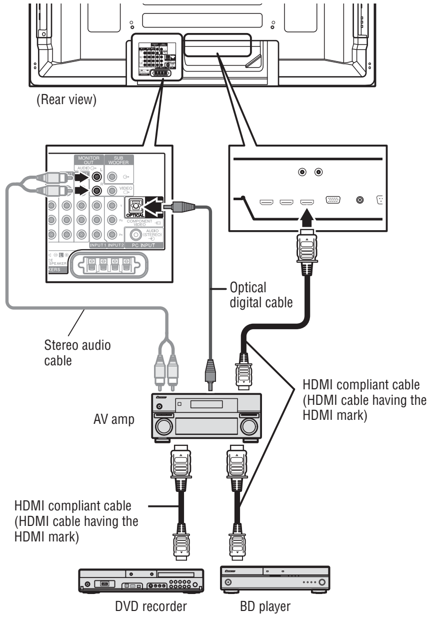
4.4.1.1 CONFIRMATION ON THE HDMI CONTROL FUNCTION

When you use the HDMI Control (HDMI-CEC) function, if the unit does not function properly, such as not being able to control or recognize connected equipment, check the following:

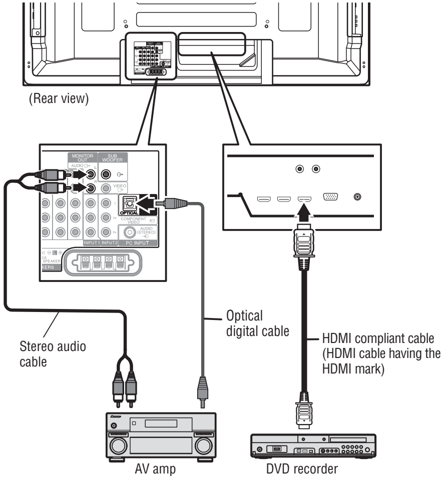
- **Confirmation of the manufacturer of the connected equipment**
  Check if the connected equipment was manufactured by Pioneer and if it supports the HDMI Control function.
  If its manufacturer is not Pioneer, proper operations are not guaranteed.

- **Confirmation of connections**
  Check if the unit is connected properly, as shown in the figures below:
  (For details, refer to "Making the HDMI Control connections" in the Operating instructions.)

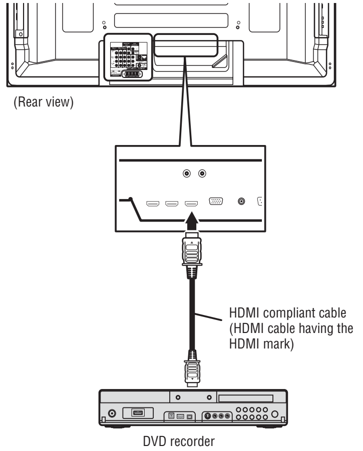
• PDP-428XDA


(Rear view)
Optical digital cable
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Example 1: When an AV amplifier that supports HDMI Control is connected

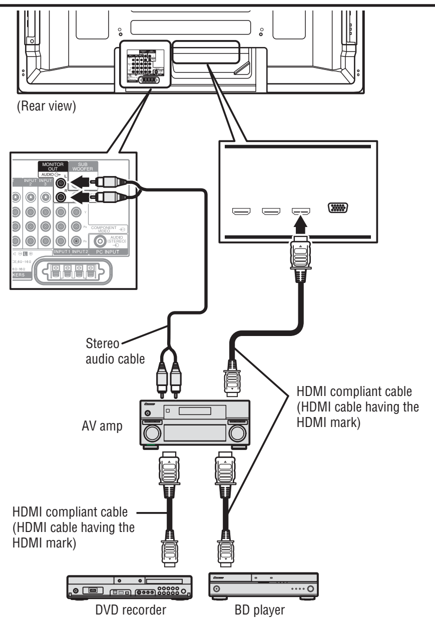

(Rear view)
Optical digital cable
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
DVD recorder

Example 2: When an AV amplifier that does not support HDMI Control is connected

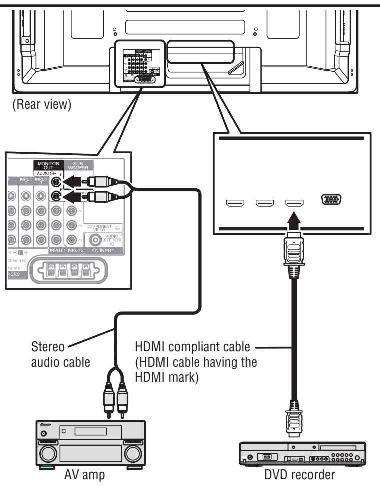

(Rear view)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder

Example 3: When an AV amplifier is not connected

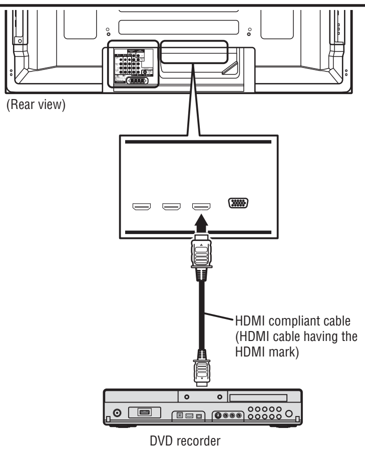
• PDP-428XG


(Rear view)
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Example 1: When an AV amplifier that supports HDMI Control is connected

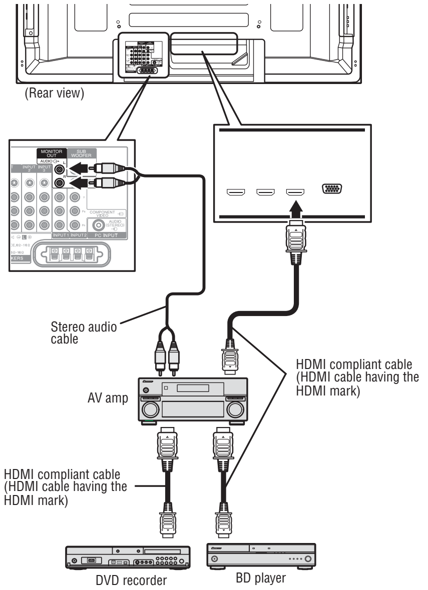

(Rear view)
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
DVD recorder

Example 2: When an AV amplifier that does not support HDMI Control is connected

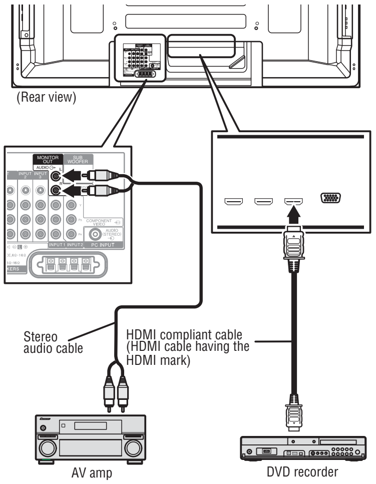

(Rear view)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder

Example 3: When an AV amplifier is not connected

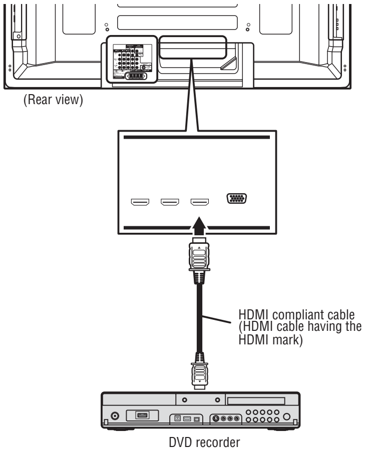
• PDP-428XC


(Rear view)
Stereo audio cable
AV amp
HDMI compliant cable (HDMI cable having the HDMI mark)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Example 1: When an AV amplifier that supports HDMI Control is connected


(Rear view)
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
DVD recorder

Example 2: When an AV amplifier that does not support HDMI Control is connected


(Rear view)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder

Example 3: When an AV amplifier is not connected

Check that the following conditions are met:

- The connected equipment must support the HDMI Control function.
- The equipment must be connected to the INPUT connector that has been selected in "Input Setting" on the HDMI Control Setting menu.
- The connections must be made properly, as shown in the above figures (in a case where an AV device, such as an AV amplifier, and a DVD recorder/BD player are connected, in a case where only a DVD recorder/BD player is connected, and in a case where an AV device, such as an AV amplifier, which does not support HDMI-CEC, is connected).
- When an AV device that supports the HDMI Control function is connected, it must be connected between the PDP and a DVD recorder/BD player.
- The HDMI Control function must be activated on the connected equipment (DVD recorder, BD player, AV device [AV amplifier, etc.]).
  (Refer to the instruction manual of the connected equipment.)

• Confirmation of the number of connected devices

Check that the number of connected devices does not exceed the maximum number for guaranteed operations.

Equipment	Maximum Number
DVD recorder	2
BD player	2
AV System	1

• Confirmation of settings

Check that the settings for the HDMI Control function are properly made. (For details, refer to "Setting the HDMI Control" in the Operating instructions.)

Check that the following conditions are met:

- "Input Setting" on the HDMI Control Setting menu must be set to the same input as that to which the equipment that supports the HDMI Control function is connected.
- When Power Off Control, Power-On Ready, or Hold Sound Status are to be used, their settings must be On.

• Confirmation of operations

Check that the HDMI Control function works properly.

(1) Connect a device that supports the HDMI Control function.

(2) Perform the procedures that are required after changing connections, which are described in "Making the HDMI Control connections" in the Operating instructions.

1 Turn on the plasma television and all the connected devices.
2 Confirm that the setting in “Input Setting” for “HDMI Control Setting” is properly entered according to the connected devices. Also confirm the HDMI Control related settings in the connected devices.
3 Switch to the HDMI input terminals to which the devices are connected to check if audio and video images are properly output and displayed.
4 Try turning off the plasma television, then turn the power back on to the plasma television.

(3) Perform "Power On Test" or "Power Off Test" on the HDMI Control Setting menu. (For details, refer to "Power On/Off Test" in the Operating instructions.)

If the following occurs even if the operation check is performed properly, a failure, such as breakage of the HDMI cable, problems on the side of the connected device, and problems with the MAIN Assy, may be suspected:

- "Power On Test" or "Power Off Test" cannot be selected (the items are grayed)
- The connected device cannot be turned on/off.

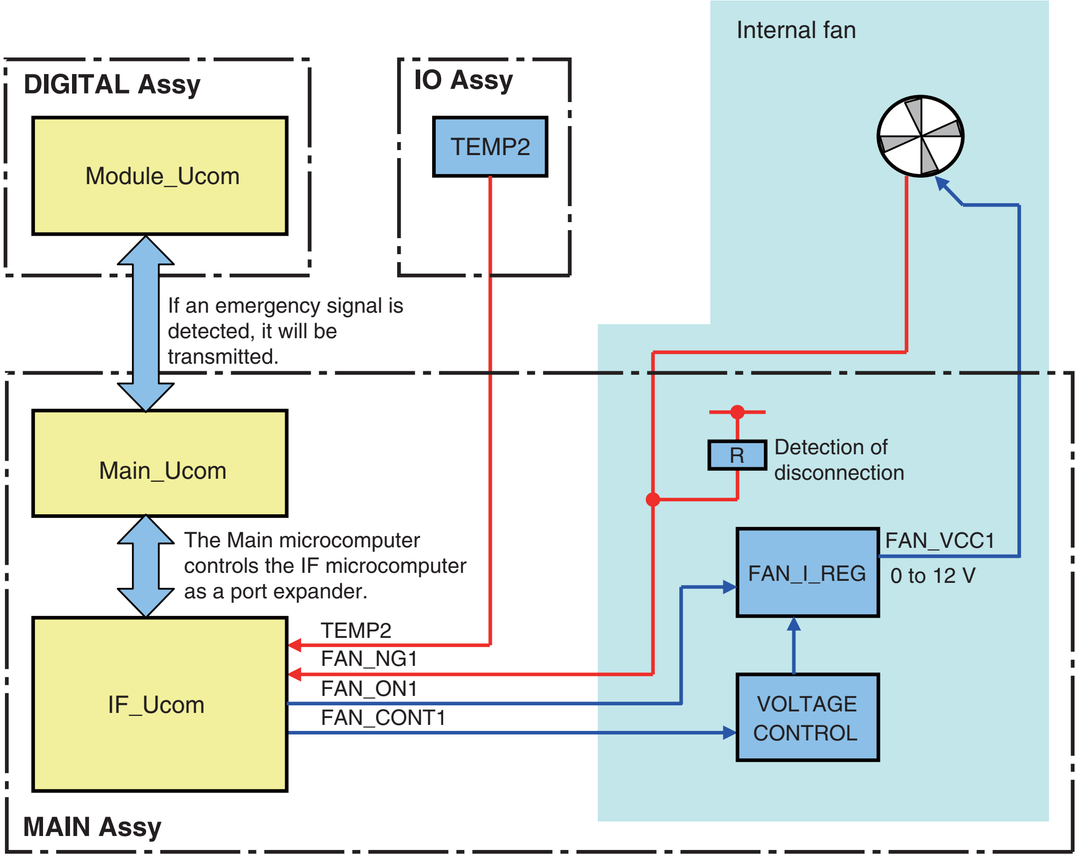
In some cases, an operation check using another HDMI input connector may be required in order to narrow down the cause.

4.5 OUTLINE OF THE OPERATION

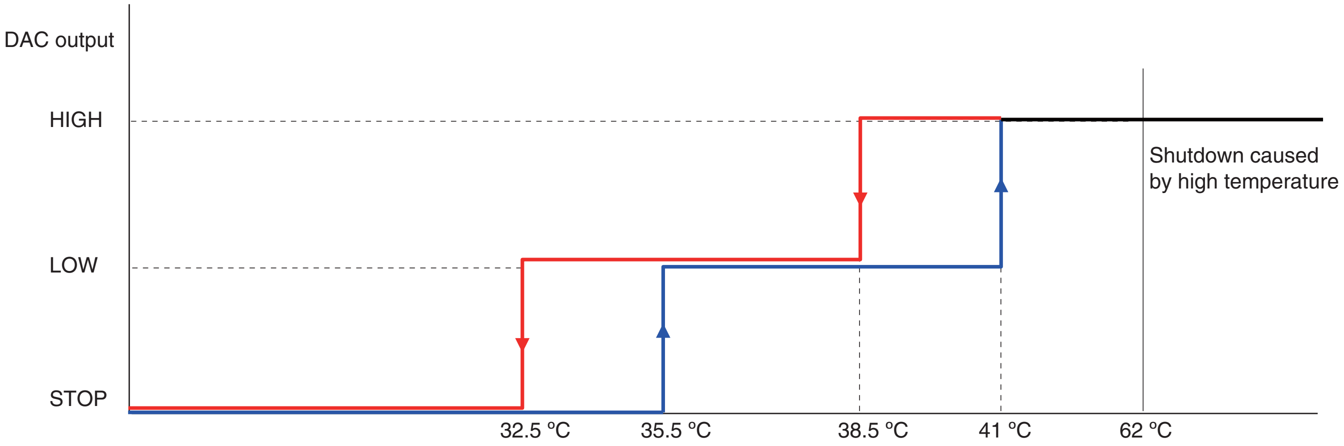
4.5.1 SPECIFICATION OF THE FAN CONTROL

■ Block diagram

The internal fan cools down the MTB and Power blocks.


Internal fan
DIGITAL Assy
Module_Ucom
IO Assy
TEMP2
If an emergency signal is detected, it will be transmitted.
Main_Ucom
R
Detection of disconnection
FAN_I_REG
FAN_VCC1
0 to 12 V
The Main microcomputer controls the IF microcomputer as a port expander.
IF_Ucom
TEMP2
FAN_NG1
FAN_ON1
FAN_CONT1
VOLTAGE CONTROL
MAIN Assy

■ Operation specifications



Notes:

- The operating temperature of the fan is higher than the ambient temperature, because the sensor temperature is read by the microcomputer.
- If the critical values for signals are displayed in the address circuit, the fan may be activated or be rotated at higher speed in response to values lower than the set temperature values shown above.

5. SERVICE FACTORY MODE

SERVICE FACTORY MODE of PDP-428XG/DLFT,PDP-428XDA/YP and PDP-428XC/WA5 is the same as PDP-4280XA/WYV5 except for the following:

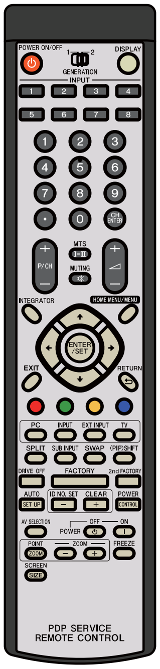
5.1 OUTLINE OF THE SERVICE FACTORY MODE

Operations during Service Factory mode are described here.

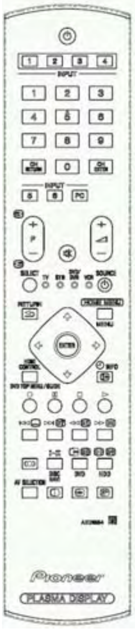
5.1.1 REMOTE CONTROL CODE IN SERVICE FACTORY MODE

Remote Control Keys	Basic Functions	Remarks
MUTING	Switching the main items.	Shifting to the next main item (top).
⬇ (DOWN)	Switching the subtitled items.	Shifting downward to the next subtitiled item.
⬆ (UP)	Switching the subtitled items.	Shifting upward to the next upper layer.
⬅ (LEFT)	Decreasing the adjustment value.	Decreasing the adjustment value.
➡ (RIGHT)	Increasing the adjustment value.	Increasing the adjustment value.
ENTER/SET	Switching the layers.	Shifting downward or upward to the next lower or upper layer.
INPUT	Selecting INPUT.	Shifting the INPUT to the next function.
INPUTxx	Selecting INPUT.	Switching the INPUT to xx. (xx=1 to 6 etc)
CH+/P+	Increasing the channel number.	
CH-/P-	Decreasing the channel number.	
Numeric Keys	Function: TV	Function: TV (previously selected channel number is selected)
POWER	Power OFF.	Turning the power off.
FACTORY	Factory OFF (Factory mode)	In Factory mode, turning Factory mode off.
	Factory ON (Non-Factory mode).	In Non-Factory mode, turn Fuctory mode on.
HOME MENU	Menu ON.	In Factory mode, turn Factory mode off.
VOLUME+	Volume UP.	Increasing 10 the adjustment value. (PANEL FACTORY)
VOLUME-	Volume DOWN.	Decreasing 10 the adjustment value. (PANEL FACTORY)
DRIVE OFF (Note1)	Drive Mode OFF.	Turning Drive mode off.
INTEGRATOR	INTEGRATOR MENU ON.	Enter INTEGRATOR MODE.

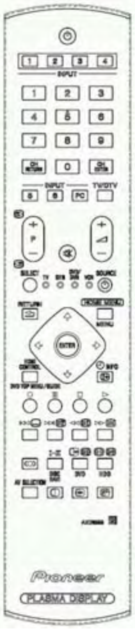
(Note 1) When ten seconds have passed since the [DRIVE OFF] key was pressed at the standby, it becomes invalid. Please press [POWER] key from the [DRIVE OFF] key pressing within ten seconds when you do power supply ON while driven OFF.


POWER ON/OFF
1
2
GENERATION
DISPLAY
INPUT
1
2
3
4
5
6
7
8
1
2
3
4
5
6
7
8
9
•
0
CH ENTER
P/CH
MTS
I-II
MUTING
INTEGRATOR
HOME MENU/MENU
ENTER /SET
EXIT
RETURN
PC
INPUT
EXT INPUT
TV
SPLIT
SUB INPUT
SWAP
(PIP)SHIFT
DRIVE OFF
FACTORY
2nd FACTORY
AUTO
SET UP
ID NO. SET
CLEAR
POWER
CONTROL
AV SELECTION
OFF
ON
POWER
POINT
ZOOM
ZOOM
FREEZE
SCREEN
SIZE
PDP SERVICE
REMOTE CONTROL

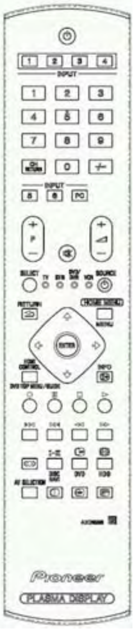
PDP service remote control


INPUT
Pioneer
PLASMA DISPLAY

PDP-428XG

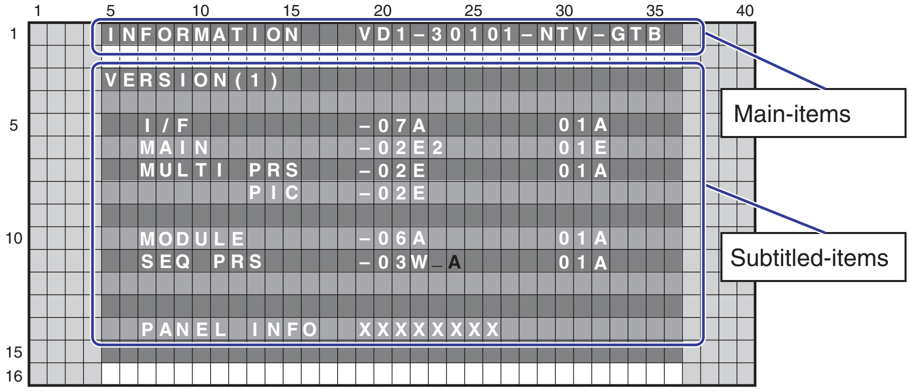

INPUT
Pioneer
PLASMA DISPLAY

PDP-428XDA


INPUT
Pioneer
PLASMA DISPLAY

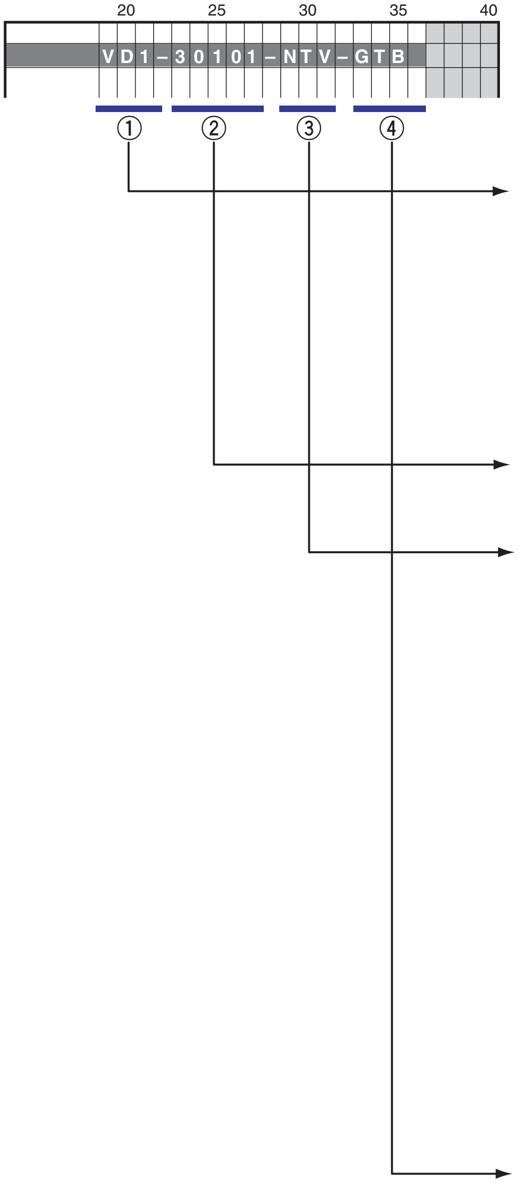
PDP-428XC

5.1.2 INDICATIONS IN SERVICE FACTORY MODE


1
5
10
15
20
25
30
35
40
1
5
10
15
16
Main-items
Subtitled-items

```
INFORMATION      VD1–30101–NTV–GTB

VERSION(1)

  I/F            –07A         01A
  MAIN           –02E2        01E
  MULTI  PRS     –02E         01A
         PIC     –02E

  MODULE         –06A         01A
  SEQ  PRS       –03W_A       01A


  PANEL  INFO    XXXXXXXX
```

Main-item indications


20
25
30
35
40
VD1–30101–NTV–GTB
①
②
③
④

① Input function

Input Functions	OSD
VD 1 to 5	VD 1 to 5
Terrestrial Analog Wave	AIR
Terrestrial Digital Wave (PDP-428XDA only)	ARD
Cable	CBL
Home Gallery	HG
PC	PC

② SIG mode and Screen size

Note: See SIG-Mode Tables. (See next page.)

③ Color system and Signal type

Color System and Signal Type	OSD	
	At Composite Input	At S-connector Input
NTSC	NTV	NTS
PAL	PLV	PLS
PAL M	PMV	PMS
PAL N	PNV	PNS
PAL 60	P6V	P6S
SECAM	SCV	SCS
4.43 NTSC	4NV	4NS
BLACK/WHITE	BWV	BWS
Y/CB/CR	CBR	
Y/PB/PR	PBR	
RGB	RGB	
Digital Video signal	DIG	

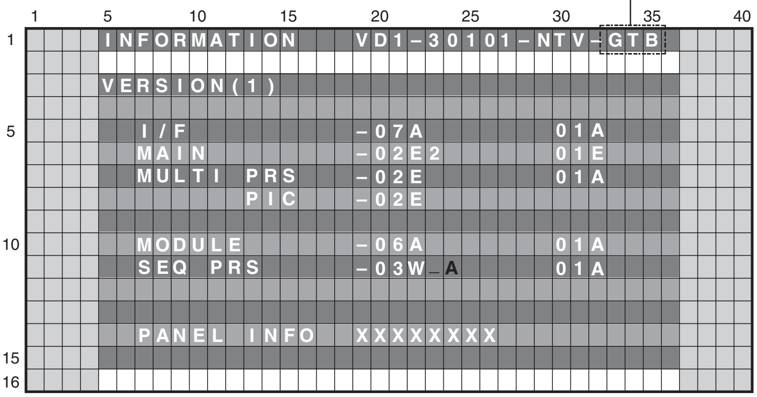
④ Option (Destination, Panel Generation, etc.)

Options	OSD
PDP-428XG	GTB
PDP-428XDA	UHB
PDP-428XC	CTB

5.2 DETAILS OF FACTORY MENU

5.2.1 INFORMATION

5.2.1.1 VERSION (1)



```
INFORMATION     VD1-30101-NTV-GTB

VERSION(1)

  I/F           -07A         01A
  MAIN          -02E2        01E
  MULTI  PRS    -02E         01A
         PIC    -02E

  MODULE        -06A         01A
  SEQ  PRS      -03W_A       01A


  PANEL  INFO   XXXXXXXX
```

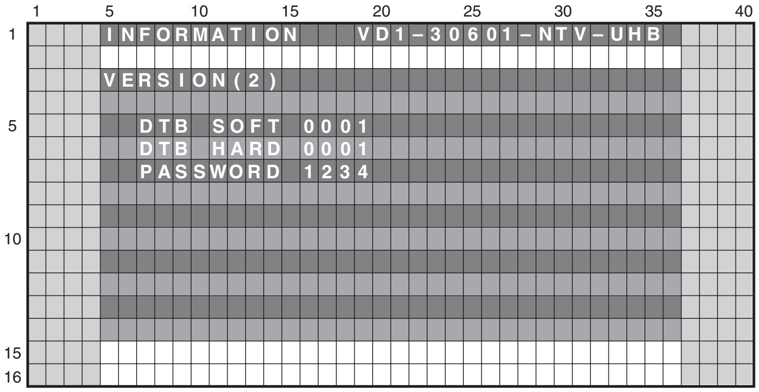
GTB : PDP-428XG
CTB : PDP-428XC
UHB : PDP-428XDA

Microcomputer	Item Name	Display Example (Execution program block)	Display Example (Boot block)
I/F microcomputer	I/F	-07A	01A
Main microcomputer	MAIN	-02E2	01E
Multi processor	MULTI PRS	-02E	01A
Multi processor	MULTI PIC	-02E	
Module microcomputer	MODULE	-06A	01A
Sequence processor	SEQ PRS	-03W_A	01A

Note: In the 29-32 rows, the Boot version information on each device is displayed.
In the 19-24 rows, the version of the execution program is displayed.

- **PANEL INFO:** It displays the generation of the panel, inchage and the type of the panel. For details on display values and settings, see "10: Panel Information" in "9.3.1. QS1 (PANEL STATUS)."

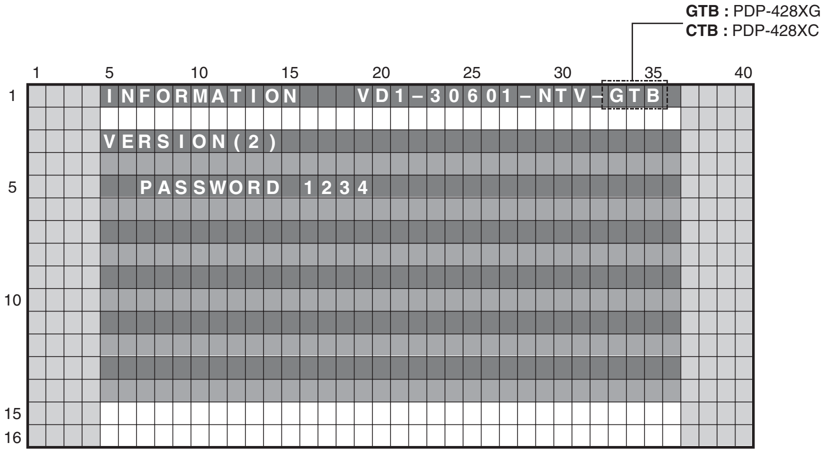
5.2.1.2 VERSION (2)



```
INFORMATION    VD1–30601–NTV–UHB

VERSION(2)

    DTB  SOFT  0001
    DTB  HARD  0001
    PASSWORD   1234
```

PDP-428XDA

Meaning	Item Name	Display Example
DTV Software Version	DTB SOFT	0001
DTV Hardware Version	DTB HARD	0001
User Password	PASSWORD	1234



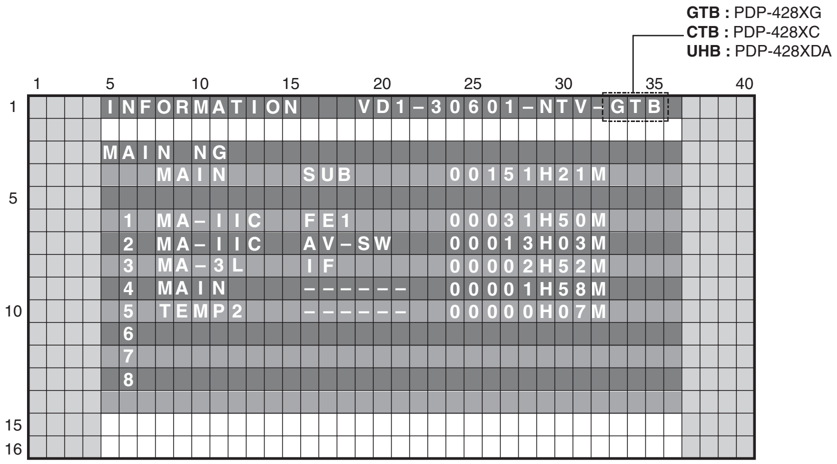
GTB : PDP-428XG
CTB : PDP-428XC

```
INFORMATION    VD1–30601–NTV–GTB

VERSION(2)

    PASSWORD   1234
```

PDP-428XG/PDP-428XC

Meaning	Item Name	Display Example
User Password	PASSWORD	1234

5.2.1.3 MAIN NG



```
INFORMATION   VD1-30601-NTV-GTB

MAIN  NG
  MAIN      SUB     00151H21M

 1 MA-IIC   FE1     00031H50M
 2 MA-IIC   AV-SW   00013H03M
 3 MA-3L    IF      00002H52M
 4 MAIN     ------  00001H58M
 5 TEMP2    ------  00000H07M
 6
 7
 8
```

MTB side's Shutdown NG information

OSD: MAIN	OSD: SUB	Cause of Shutdown
AUDIO	----	Short-circuit of the speaker terminal or failure of audio amplifier.
MODULE	----	Failure of communication to Module microcomputer.
MA-3L		3-wire Serial Communication of Main microcomputer.
	IF	Communication failure of IF microcomputer
	MULTI	Multi Processor communication failure
MA-IIC		IIC Communication failure of Main microcomputer
	FE1	Analog Tuner 1
	MSPMAP	MSP/MAP
	AV-SW	AV Switch
	RGB-SW	RGB Switch
	VDEC	VDEC
	SDRAM	VDEC-SDRAM
	ADC	AD/PLL
	HDMI	HDMI
MAIN		Communication failure of Main microcomputer
FAN	FAN1	Fan stopped
	FAN2	Fan stopped (Only with models having the Full HD panel)
TEMP2		Abnormally high temperature at MTB.
DTUNER (PDP-428XDA only)		Failure of Digital Tuner
	PS/RST	Failure to DTV Starting
	RETRY	DTV communication error
RST-MA	M-DCDC	Abnormally in RST2 of MTB. (power decrease of DC-DC converter)
	RELAY	Relay Power Supply
MA-EEP		IIC communication line between EEPROM and MAIN

5.2.2 OPTION

Operation item

No.	Function	Content	RS-232C
5.2.2.1	EDID WRITE MODE ⇔	DISABLE ⇔ ENABLE	–––
5.2.2.2	CH PRESET ⇔	USER ⇔ FACTORY	–––
5.2.2.3	AFT	For factory use	–––
5.2.2.4	SYNC DET (+)	Exclusively used for technical analysis	–––

5.2.2.1 EDID WRITE MODE <=>

Exclusively used for production line.

5.2.2.2 CH PRESET <=>

Exclusively used for production line.

5.2.2.3 AFT

Exclusively used for production line.

5.2.2.4 SYNC DET (+)

Exclusively used for technical analysis (details omitted).

6. EACH SETTING AND ADJUSTMENT

EACH SETTING AND ADJUSTMENT of PDP-428XG/DLFT,PDP-428XDA/YP and PDP-428XC/WA5 is the same as PDP-4280XA/WYV5 except for the following:

6.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.

If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2465 (PDP-428XG, PDP-508XG,PDP-428XDA and PDP-508XDA) AWV2466 (PDP-428XC and PDP-508XC) AWV2467 (PDP-LX508A, PDP-LX608A,PDP-LX508G and PDP-LX608G)	MAIN Assy	IC4601	AV switch	R2S11006FT
		IC4701	RGB switch	R2S11001FT
		IC4703	EEPROM	BR24L01AFJ-W
		IC4801	MAIN VDEC	CM0048BF
		IC5001	A/D Converter	AD9985KSTZ-110
		IC5102	EEPROM	BR24L02FV-W
		IC5103	EEPROM	BR24L02FV-W
		IC5203	EEPROM	BR24L02FV-W
		IC8204	Flash ROM	AGC1055 (for AWV2467)
		IC8204	Flash ROM	AGC1051 (for AWV2465, AWV2466)
		IC8301	Flash UCOM	AGC1037
		IC8602	Flash ROM	AGC1047 (for AWV2467)
		IC8602	Flash ROM	AGC1042 (for AWV2465, AWV2466)
AWV2452, AWV2447	X DRIVE Assy	• Parts of X D-D CON BLOCK		
AWV1262, AWV1260	Y DRIVE Assy	• Parts of Y VF D-D CON BLOCK • Parts of Y MAIN D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 2		

POWER SUPPLY Unit ➡	The assembly must be replaced as a unit, and no part replacement is allowed.
MAIN Assy ➡	No adjustment is required after replacement of parts other than those mentioned above.
DIGITAL Assy ➡	No adjustment is required after replacement of parts other than those mentioned above.
X DRIVE Assy ➡	No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED.
Y DRIVE Assy ➡	No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED.
ADDRESS Assy ➡	No adjustment required
SENSOR Assy ➡	No adjustment is required after replacement of parts other than those mentioned above.
TANSHI Assy ➡	No adjustment required

7. RS-232C

RS-232C of PDP-428XG/DLFT,PDP-428XDA/YP and PDP-428XC/WA5 is the same as PDP-4280XA/WYV5 except for the following:

7.1 LIST OF RS-232C COMMANDS

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
G							
GHI	***	User white balance : GREEN highlight	●				
GLW	***	User white balance : GREEN low light	●				
I							
INA	***	Switching the terrestrial analog signal (***: channel number)		●	Main		
		Switching the terrestrial analog signal		●	Main		
INC	***	Switching the terrestrial digital signal (PDP-428XDA only) (***:channel number)		●	Main		
		Switching the terrestrial digital signal (PDP-428XDA only)		●	Main		
INH		Switching the HomeGallery		●			
INP	S01	Input switch: INPUT 1		●	Main		
	S02	Input switch: INPUT 2		●	Main		
	S03	Input switch: INPUT 3		●	Main		
	S04	Input switch: INPUT 4		●	Main		
	S05	Input switch: INPUT 5		●	Main		
	S06	Input switch: INPUT 6		●	Main		
	S07	Input switch: INPUT 7 (PC)		●	Main		
M							
MKC	S00	Panel mask indication off	●		Mod		
	S01	H ramp (slant 1) M	●		Mod	●	
	S02	H ramp (slant 4) M	●		Mod	●	
	S03	Slanting ramp M	●		Mod	●	
	S04	30 for aging	●		Mod	●	
	S05	05 for aging	●		Mod	●	
	S06	Erasing afterimage 1	●		Mod	●	
	S07	Erasing afterimage 2 (RGB: zigzag, V: reverse)	●		Mod	●	
	S08	White (change in luminance level)	●		Mod	●	
	S09	PEAK SEEK RASTER	●		Mod	●	
	S10	For engineering use	●		Mod	●	
	S11	Green vertical line scroll	●		Mod	●	
	S12	Green horizontal line scroll	●		Mod	●	
	S13	Vertical ramp vertical scroll (white)	●		Mod	●	
	S14	Vertical ramp vertical scroll (green)	●		Mod	●	
	S15	Horizontal ramp horizontal scroll (white)	●		Mod	●	
	S16	Horizontal ramp horizontal scroll (green)	●		Mod	●	
	S17	Cross hatch + window	●		Mod	●	
MKS	S00	MASK off	●		Mod		
	S01	H ramp (slant 1)	●		Mod	●	
	S02	H ramp (slant 4)	●		Mod	●	
	S03	V ramp (slant 1)	●		Mod	●	
	S04	Slanting ramp	●		Mod	●	
	S05	Window (Hi= 870, Lo= 102)	●		Mod	●	

7.2 DETAILS OF EACH COMMANDS

7.2.1 QSE (DESTINATION PECULIAR INFORMATION)

Induce it peculiar, individual information is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QSE]	Every time	Output of status	

PDP-428XG/PDP-428XC

Order	Part	Data Arrangement	Data Length	Output Example
0	–	Received Command name	3 byte	QSE
1		Reserved	4 byte	****
2		USER PASSWORD	4 byte	1234
3	–	Check Sum	2 byte	03

PDP-428XDA

Order	Part	Data Arrangement	Data Length	Output Example
0	–	Received Command name	3 byte	QSE
1		DTV Software Version	4 byte	0001
2		DTV Hardware Version	4 byte	0001
3		Reserved	4 byte	****
4		USER PASSWORD	4 byte	1234
5	–	Check Sum	2 byte	03

7.2.2 QNG (SHUTDOWN INFORMATION OF MTB)

MTB side's shutdown information is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QNG]	Every time	Output of status	

Order	Part	Data Arrangement	Data Length	Output Example
0	–	Received Command name	3 byte	QNG
1	MTB	1st latest NG No.	1 byte	0
2		Subcategory No. for the 1st latest NG.	1 byte	0
3		MTB hour meter for the 1st latest NG.	7 byte	0000000
4		Reserved	3 byte	Fixed on 000
5		2nd latest NG No.	1 byte	0
6		Subcategory No. for the 2nd latest NG.	1 byte	0
7		MTB hour meter for the 2nd latest NG.	7 byte	0000000
8		Reserved	3 byte	Fixed on 000
9		3rd latest NG No.	1 byte	0
10		Subcategory No. for the 3rd latest NG.	1 byte	0
11		MTB hour meter for the 3rd latest NG.	7 byte	0000000
12		Reserved	3 byte	Fixed on 000
:		:	:	
29		8th latest NG No.	1 byte	0
30		Subcategory No. for the 8th latest NG.	1 byte	0
31		MTB hour meter for the 8th latest NG.	7 byte	0000000
32		Reserved	3 byte	Fixed on 000
33	–	Check Sum	2 byte	00

< SD Information No. >

Frequency *	Part	Part	Remarks (Operation)
5	MTB part	Shutdown signal from audio amp. / short-circuit of speaker terminal	Shutdown after 30 seconds warning
6		Failure of communication with Module microcomputer	Immediately Shutdown
7		3-wire serial communication of Main microcomputer	Go to No. 7 Subcategory Information
8		IIC communication failure of MTB side	Go to No. 8 Subcategory Information
9		Communication failure of Main microcomputer	Immediately Shutdown
10(A)		Failure of FAN	Go to No. 10 Subcategory Information
11(B)		Abnormally in high temperature	Shutdown after 30 seconds warning
12(C)		Failure of Digital Tuner	Go to No. 12 Subcategory Information (PDP-428XDA only)
13(D)		Failure of Power Supply at MTB side	Go to No. 13 Subcategory Information
15(F)		Failure of Main EEPROM	Immediately Shutdown

*: Indicates the frequency of Blue LED flashing when the shutdown is occurred.

< No. 7 Subcategory Information on "Failure in 3-wire serial communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
1	Communication error of IF microcomputer	Shutdown
2	Communication error of sequence processor	Shutdown

< No. 8 Subcategory Information on "Failure in IIC communication of MTB side" >

Value	Shutdown Factor	Remarks (Operation)
1	Tuner 1	Shutdown
2	MSP/MAP	Shutdown
3	AV Switch	Shutdown
4	RGB Switch	Shutdown
5	VDEC	Shutdown
6	VDEC-SDRAM	Shutdown
7	AD/PLL	Shutdown
8	HDMI	Shutdown

< No. 10 Subcategory Information on "Abnormally in FAN" >

Value	Shutdown Factor	Remarks (Operation)
1	FAN 1	Shutdown
2	FAN 2 (FHD only)	Shutdown

< No. 12 Subcategory Information on "Failure in Digital Tuner" > (PDP-428XDA only)

Value	Shutdown Factor	Remarks (Operation)
1	DTV starting failure	Communication stop
2	DTV communication error	Shutdown

< No. 13 Subcategory Information on "Failure in Power supply at MTB side" >

Value	Shutdown Factor	Remarks (Operation)
1	RST 2	Shutdown
2	RST 4	Shutdown

8. GENERAL INFORMATION

GENERAL INFORMATION of PDP-428XG/DLFT,PDP-428XDA/YP and PDP-428XC/WA5 is the same as PDP-4280XA/WYV5 except for the following:

8.1 DISPLAY METHOD OF SIGNAL LEVEL,QUALTY,AND BER INFORMATION SCREEN
(PDP-428XDA Only)

Display Method of Signal Level, Quality, and BER Information Screen

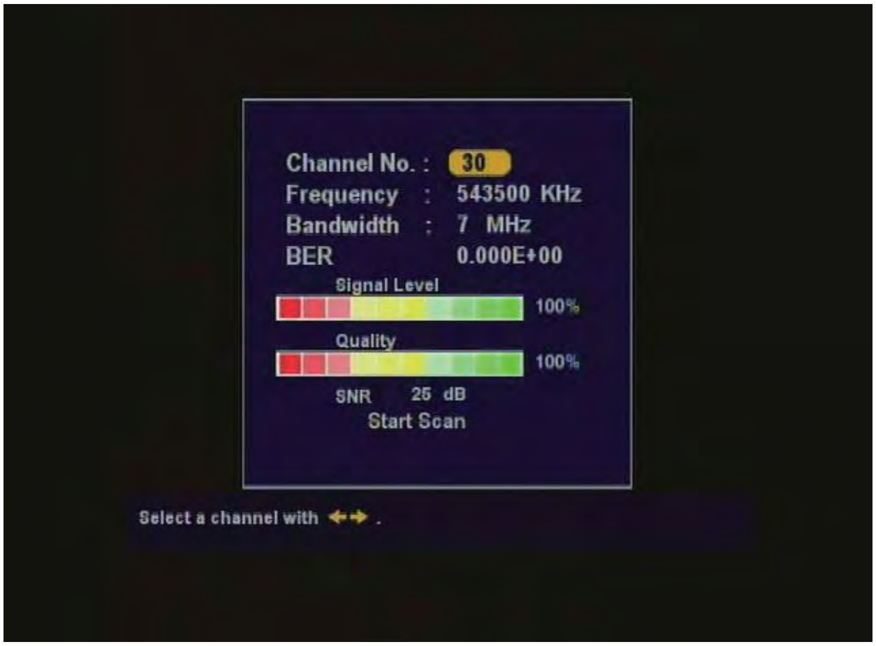
MANUAL SCAN screen has these information.

Operation : Manual Scan
HOMEMENU => Setup => DTV Setup => Installation => Input Password =>Manual Scan

Signal Level
Quality
"Signal Level" and "Quality" are displayed on Manual Scan screen.
These level indicater are laugh standard.
Please use them as reference

BER
While displaying Manual Scan screen, please press the following keys within 5 seconds.
Operation : BER
1. Green Key
2. I-II Key
3. Enter Key

This BER function is effective until turning off power.



Channel No. : 30
Frequency : 543500 KHz
Bandwidth : 7 MHz
BER 0.000E+00
Signal Level 100%
Quality 100%
SNR 25 dB
Start Scan

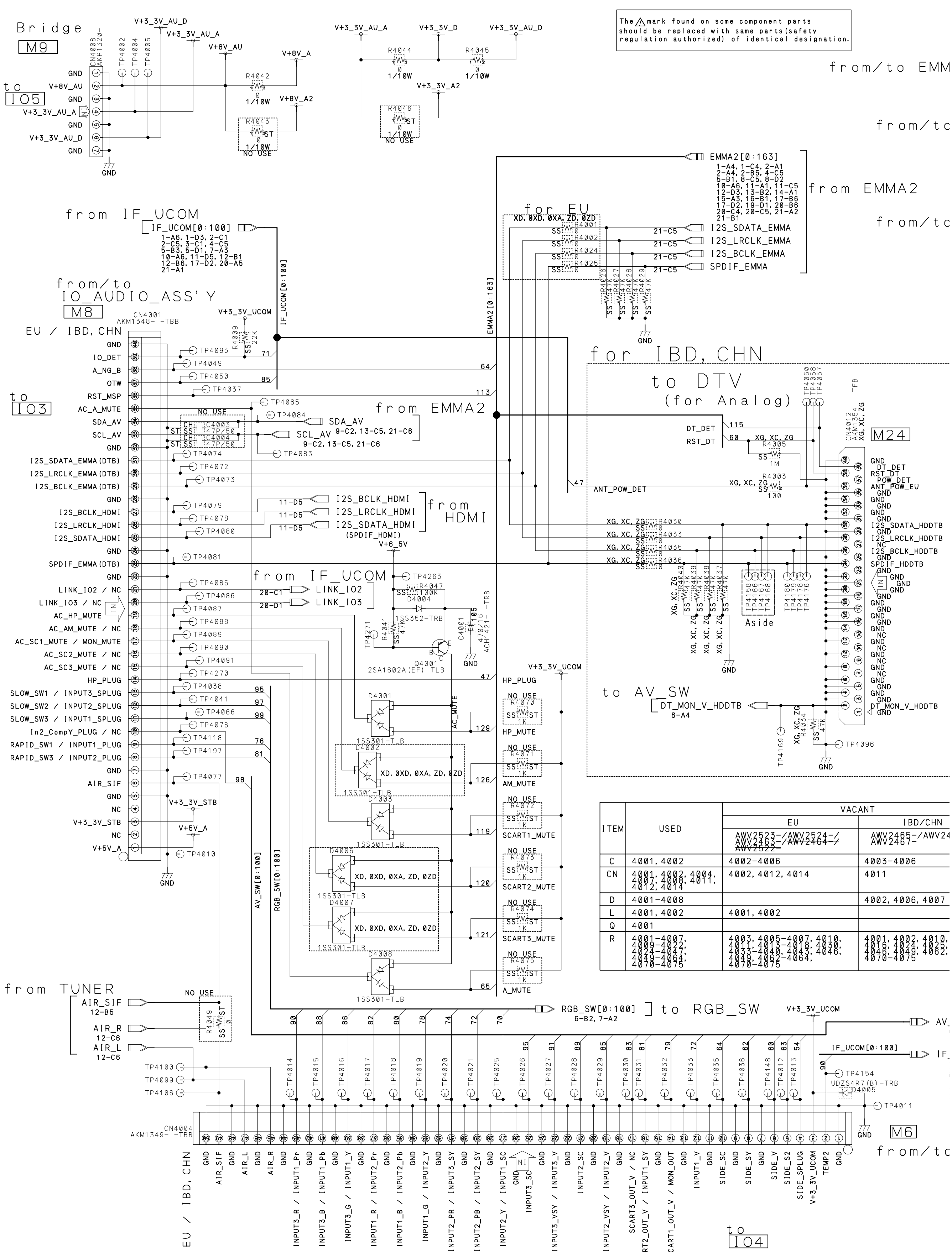
Select a channel with ←→ .

Fig : Manual Scan screen

9. SCHEMATIC DIAGRAM

SCHEMATIC DIAGRAM of PDP-428XG/DLFT,PDP-428XDA/YP and PDP-428XC/WA5 is the same as PDP-4280XA/WYV5 except for the following:

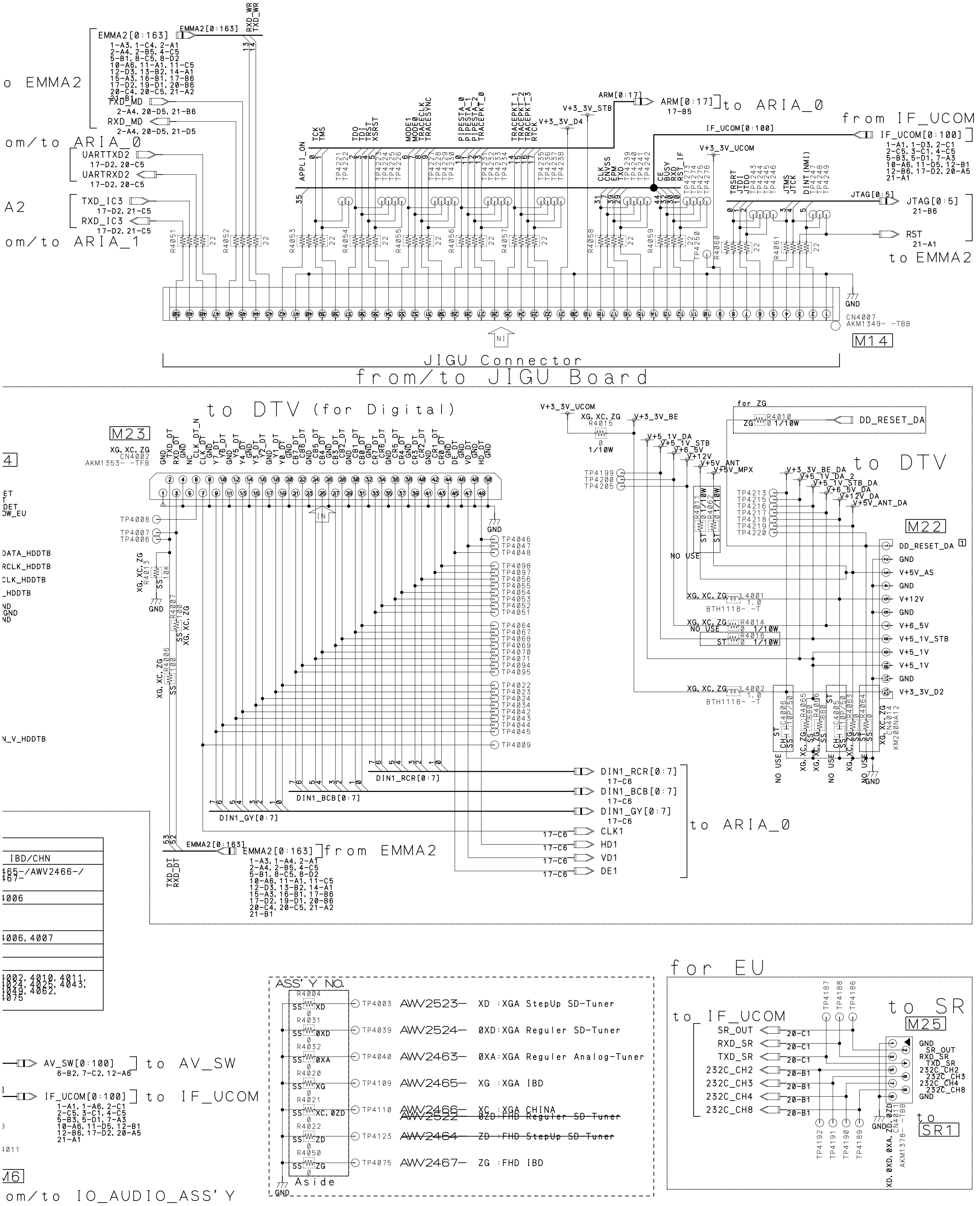
9.1 MAIN ASSY (1/20) [BOARD IF0 BLOCK]



Bridge
M9
to IO5
CN4008 AKP1320-
TP4002
TP4004
TP4005
GND
V+8V_AU
V+3_3V_AU_A
V+3_3V_AU_D
V+8V_A
V+8V_A2
R4042 0 1/10W
R4043 ST 0 1/10W NO USE
V+3_3V_A2
R4044 0 1/10W
R4045 0 1/10W
R4046 ST 0 1/10W NO USE
V+3_3V_D
from/to EMM
from/to
EMMA2[0:163]
1-A4, 1-C4, 2-A1
2-A4, 2-B5, 4-C5
5-B1, 8-C5, 8-D2
10-A6, 11-A1, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
from EMMA2
for EU
XD, 0XD, 0XA, ZD, 0ZD
R4001
R4002
R4024
R4025
R4026
R4027
R4028
R4029
SS 47K
21-C5
I2S_SDATA_EMMA
I2S_LRCLK_EMMA
I2S_BCLK_EMMA
SPDIF_EMMA
from IF_UCOM
IF_UCOM[0:100]
1-A6, 1-D3, 2-C1
2-C5, 3-C1, 4-C5
5-B3, 5-D1, 7-A3
10-A6, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
IF_UCOM[0:100]
EMMA2[0:163]
from/to IO_AUDIO_ASS'Y
M8
CN4001 AKM1348- -TBB
EU / IBD, CHN
to IO3
V+3_3V_UCOM
R4009 SS 22K
GND
IO_DET
A_NG_B
OTW
RST_MSP
AC_A_MUTE
SDA_AV
SCL_AV
I2S_SDATA_EMMA(DTB)
I2S_LRCLK_EMMA(DTB)
I2S_BCLK_EMMA(DTB)
I2S_BCLK_HDMI
I2S_LRCLK_HDMI
I2S_SDATA_HDMI
SPDIF_EMMA(DTB)
LINK_IO2 / NC
LINK_IO3 / NC
AC_HP_MUTE
AC_AM_MUTE / NC
AC_SC1_MUTE / MON_MUTE
AC_SC2_MUTE / NC
AC_SC3_MUTE / NC
HP_PLUG
SLOW_SW1 / INPUT3_SPLUG
SLOW_SW2 / INPUT2_SPLUG
SLOW_SW3 / INPUT1_SPLUG
In2_CompY_PLUG / NC
RAPID_SW1 / INPUT1_PLUG
RAPID_SW3 / INPUT2_PLUG
AIR_SIF
NC
V+3_3V_STB
V+5V_A
NO USE
C4003 47P/50
C4004 47P/50
TP4093
TP4049
TP4050
TP4037
TP4065
TP4084
TP4083
TP4074
TP4072
TP4073
TP4079
TP4078
TP4080
TP4081
TP4085
TP4086
TP4087
TP4088
TP4089
TP4090
TP4091
TP4270
TP4038
TP4041
TP4066
TP4076
TP4118
TP4197
TP4077
TP4010
from EMMA2
SDA_AV 9-C2, 13-C5, 21-C6
SCL_AV 9-C2, 13-C5, 21-C6
11-D5
I2S_BCLK_HDMI
I2S_LRCLK_HDMI
I2S_SDATA_HDMI
(SPDIF_HDMI)
from HDMI
V+6_5V
from IF_UCOM
20-C1 LINK_IO2
20-D1 LINK_IO3
TP4263
R4047 SS 100K
D4004 1SS352-TRB
R4041 SS 47K
TP4271
C4001 105 470/16 ACH1421- -TRB
Q4001 2SA1602A(EF)-TLB
V+3_3V_UCOM
HP_PLUG
D4001 1SS301-TLB
D4002 XD, 0XD, 0XA, ZD, 0ZD 1SS301-TLB
D4003 1SS301-TLB
D4006 XD, 0XD, 0XA, ZD, 0ZD 1SS301-TLB
D4007 XD, 0XD, 0XA, ZD, 0ZD 1SS301-TLB
D4008 1SS301-TLB
AC_MUTE
NO USE R4070 SS ST 1K HP_MUTE
NO USE R4071 SS ST 1K AM_MUTE
NO USE R4072 SS ST 1K SCART1_MUTE
NO USE R4073 SS ST 1K SCART2_MUTE
NO USE R4074 SS ST 1K SCART3_MUTE
NO USE R4075 SS ST 1K A_MUTE
AV_SW[0:100]
RGB_SW[0:100]
for IBD, CHN
to DTV (for Analog)
TP4060
TP4058
TP4057
CN4012 AKM1354- -TFB XG, XC, ZG
M24
DT_DET
RST_DT
XG, XC, ZG R4005 SS 1M
XG, XC, ZG R4003 SS 100
ANT_POW_DET
XG, XC, ZG R4030
XG, XC, ZG R4033
XG, XC, ZG R4035
XG, XC, ZG R4036
XG, XC, ZG R4040 R4039 R4038 R4037 SS 47K
TP4158 TP4166 TP4167 TP4168 Aside
TP4180 TP4179 TP4178 TP4176
GND
DT_DET
RST_DT
POW_DET
ANT_POW_EU
I2S_SDATA_HDDTB
I2S_LRCLK_HDDTB
NC
I2S_BCLK_HDDTB
SPDIF_HDDTB
DT_MON_V_HDDTB
to AV_SW
DT_MON_V_HDDTB 6-A4
TP4169
XG, XC, ZG R4034 SS 47K
TP4096
from TUNER
AIR_SIF 12-B5
AIR_R 12-C6
AIR_L 12-C6
NO USE R4049 SS ST 0
TP4100
TP4099
TP4106
RGB_SW[0:100] 6-B2, 7-A2
to RGB_SW
V+3_3V_UCOM
AV_
IF_UCOM[0:100]
IF_
TP4154
UDZS4R7(B)-TRB D4005
TP4011
M6
from/to
CN4004 AKM1349- -TBB
EU / IBD, CHN
AIR_SIF
AIR_L
AIR_R
INPUT3_R / INPUT1_Pr
INPUT3_B / INPUT1_Pb
INPUT3_G / INPUT1_Y
INPUT1_R / INPUT2_Pr
INPUT1_B / INPUT2_Pb
INPUT1_G / INPUT2_Y
INPUT2_PR / INPUT3_SY
INPUT2_PB / INPUT2_SY
INPUT2_Y / INPUT1_SC
INPUT3_SC
INPUT3_VSY / INPUT3_V
INPUT2_SC
INPUT2_VSY / INPUT2_V
SCART3_OUT_V / NC
SCART2_OUT_V / INPUT1_SY
SCART1_OUT_V / MON_OUT
INPUT1_V
SIDE_SC
SIDE_SY
SIDE_V
SIDE_S2
SIDE_SPLUG
V+3_3V_UCOM
TEMP2
TP4014
TP4015
TP4016
TP4017
TP4018
TP4019
TP4020
TP4021
TP4025
TP4026
TP4027
TP4028
TP4029
TP4030
TP4031
TP4032
TP4033
TP4035
TP4036
TP4148
TP4012
TP4013
to IO4

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

ITEM	USED	VACANT	
		EU	IBD/CHN
		AWV2523-/AWV2524-/ AWV2463-/~~AWV2464-/~~ ~~AWV2522-~~	AWV2465-/AWV24 AWV2467-
C	4001, 4002	4002-4006	4003-4006
CN	4001, 4002, 4004, 4007, 4008, 4011, 4012, 4014	4002, 4012, 4014	4011
D	4001-4008		4002, 4006, 4007
L	4001, 4002	4001, 4002	
Q	4001		
R	4001-4007, 4009-4022, 4024-4047, 4049-4064, 4070-4075	4003, 4005-4007, 4010, 4011, 4013-4018, 4030, 4033-4040, 4043, 4046, 4049, 4062-4064, 4070-4075	4001, 4002, 4010, 4016, 4024, 4025, 4046, 4049, 4062, 4070-4075

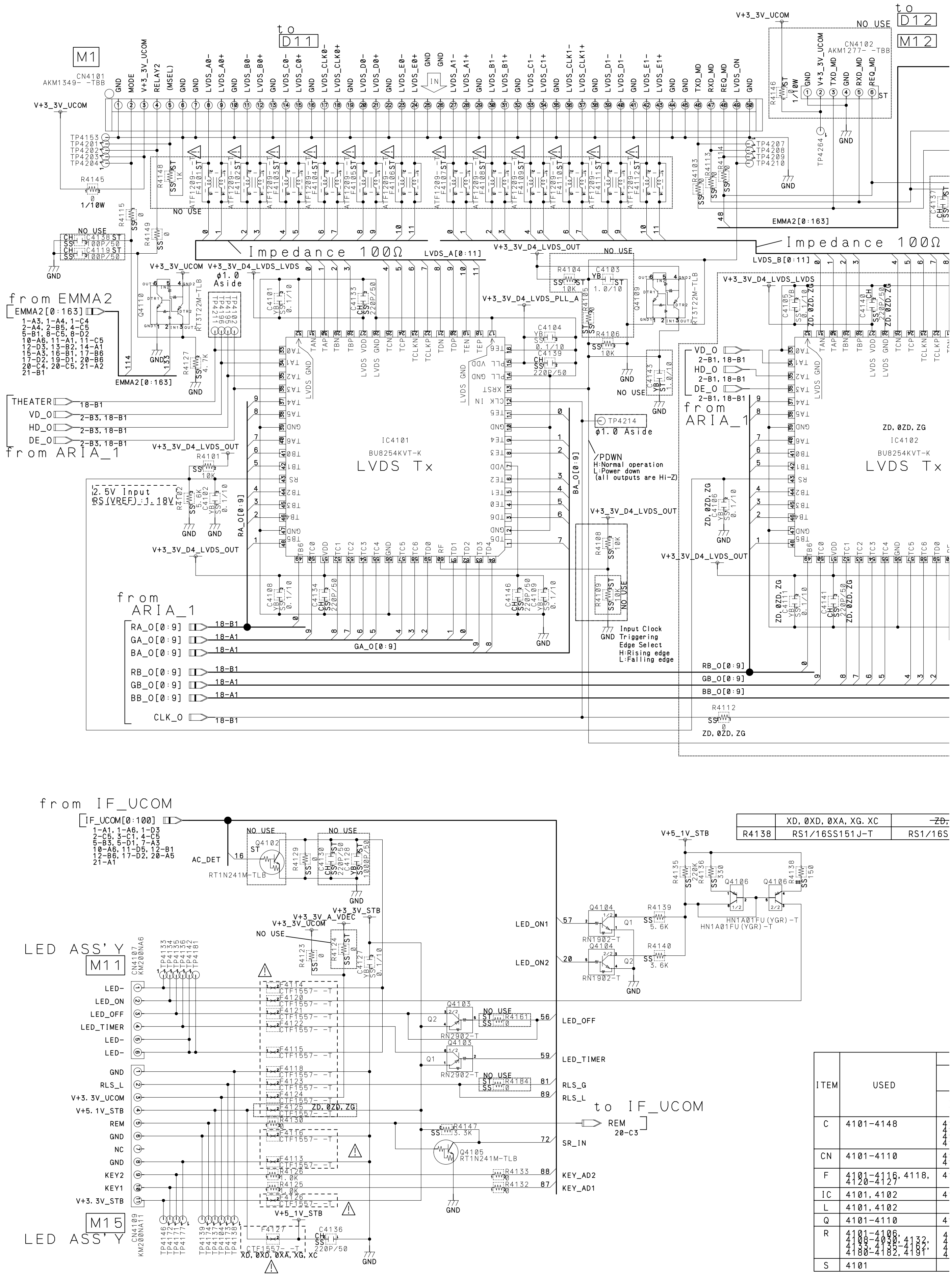


to EMMA2
EMMA2[0:163]
TXD_MD
RXD_MD
from/to ARIA_0
UARTTXD2
UARTRXD2
A2
TXD_IC3
RXD_IC3
from/to ARIA_1
RXD_WR
TXD_WR
ARM[0:17]
to ARIA_0
V+3_3V_STB
V+3_3V_D4
IF_UCOM[0:100]
from IF_UCOM
V+3_3V_UCOM
JTAG[0:5]
RST
to EMMA2
CN4007
AKM1349- -TBB
M14
GND
JIGU Connector
from/to JIGU Board
to DTV (for Digital)
M23
XG, XC, ZG
CN4002
AKM1353- -TFB
DD_RESET_DA
to DTV
M22
V+5V_AS
V+12V
V+6_5V
V+5_1V_STB
V+5_1V
V+3_3V_D2
KM200NA12
L4001
L4002
BTH1118- -T
NO USE
DIN1_RCR[0:7]
DIN1_BCB[0:7]
DIN1_GY[0:7]
CLK1
HD1
VD1
DE1
to ARIA_0
from EMMA2
AV_SW[0:100]
to AV_SW
IF_UCOM[0:100]
to IF_UCOM
from/to IO_AUDIO_ASS'Y
M6
ASS'Y NO.
AWV2523- XD :XGA StepUp SD-Tuner
AWV2524- 0XD:XGA Reguler SD-Tuner
AWV2463- 0XA:XGA Reguler Analog-Tuner
AWV2465- XG :XGA IBD
AWV2466- XC :XGA CHINA
~~AWV2522- 0ZD:FHD Reguler SD-Tuner~~
~~AWV2464- ZD :FHD StepUp SD-Tuner~~
AWV2467- ZG :FHD IBD
Aside
for EU
to IF_UCOM
to SR
M25
SR_OUT
RXD_SR
TXD_SR
232C_CH2
232C_CH3
232C_CH4
232C_CH8
to SR1
CN4011
AKM1378- -TBB

MAIN ASS'Y (EU/IBD/CHN) (01/22)
BOARD_IF_0 BLOCK

AWV2523- : AWV2524- :
AWV2463- : AWV2465- :
AWV2466- : AWV2467-

9.2 MAIN ASSY (2/20) [BOARD IF1 BLOCK]

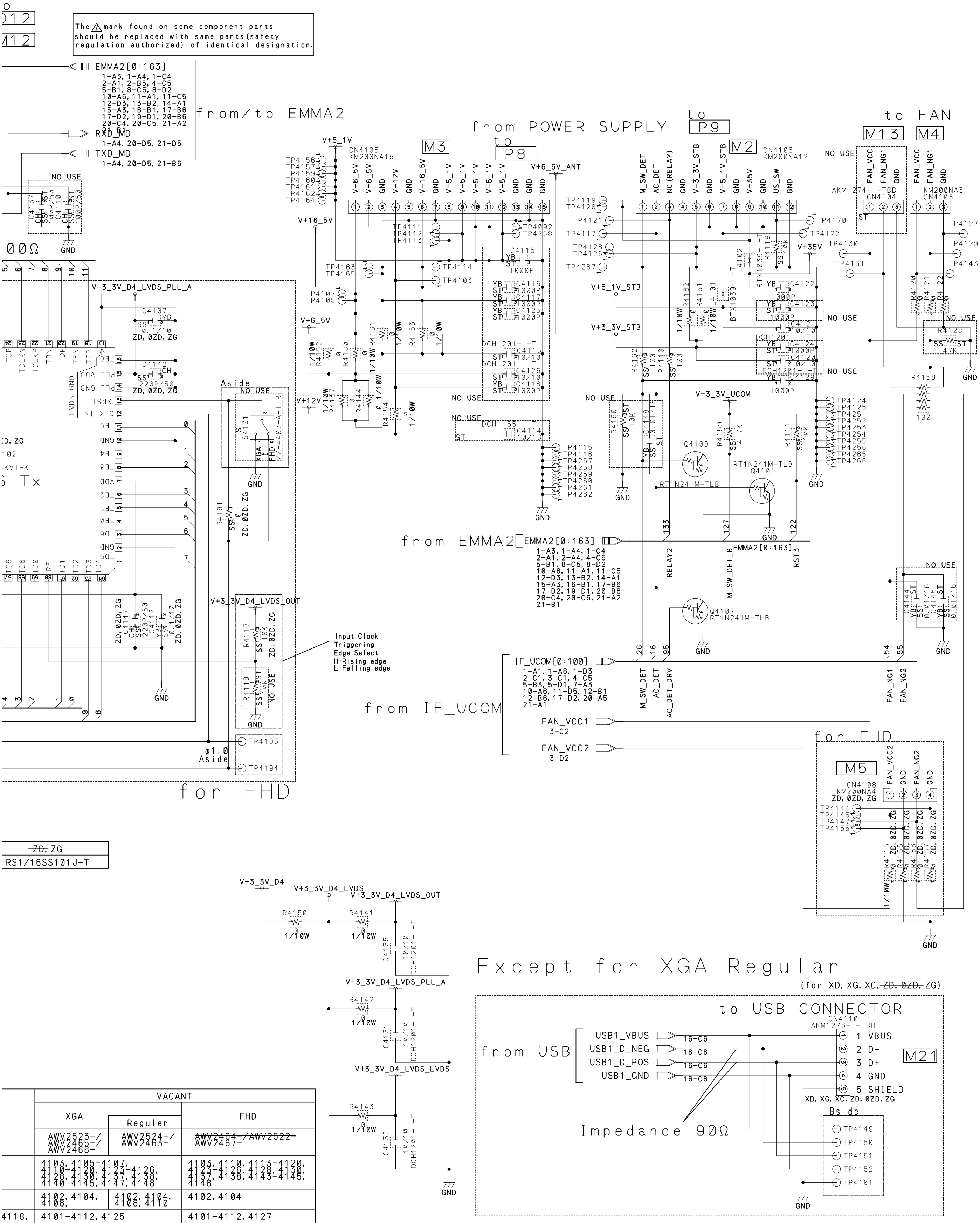


M1
CN4101
AKM1349- -TBB
to D11
to D12
M12
CN4102
AKM1277- -TBB
V+3_3V_UCOM
NO USE
EMMA2[0:163]
Impedance 100Ω
LVDS_A[0:11]
LVDS_B[0:11]
V+3_3V_D4_LVDS_OUT
V+3_3V_D4_LVDS_LVDS
V+3_3V_D4_LVDS_PLL_A
from EMMA2
from ARIA_1
THEATER
VD_O
HD_O
DE_O
2.5V Input
RS(VREF):1.18V
IC4101
BU8254KVT-K
LVDS Tx
IC4102
BU8254KVT-K
LVDS Tx
/PDWN
H:Normal operation
L:Power down
(all outputs are Hi-Z)
Input Clock Triggering Edge Select
H:Rising edge
L:Falling edge
RA_O[0:9]
GA_O[0:9]
BA_O[0:9]
RB_O[0:9]
GB_O[0:9]
BB_O[0:9]
CLK_O
ZD, 0ZD, ZG
from IF_UCOM
IF_UCOM[0:100]
AC_DET
Q4102
RT1N241M-TLB
LED ASS'Y
M11
CN4107
KM200NA6
LED-
LED_ON
LED_OFF
LED_TIMER
GND
RLS_L
V+3.3V_UCOM
V+5.1V_STB
REM
NC
KEY2
KEY1
V+3.3V_STB
M15
LED ASS'Y
CN4109
KM200NA11
LED_ON1
LED_ON2
Q4104
RN1902-T
Q4103
RN2902-T
Q4105
RT1N241M-TLB
Q4106
HN1A01FU(YGR)-T
LED_OFF
LED_TIMER
RLS_G
RLS_L
to IF_UCOM
REM
20-C3
SR_IN
KEY_AD2
KEY_AD1
V+5_1V_STB
XD, 0XD, 0XA, XG, XC

	XD, 0XD, 0XA, XG. XC	~~ZD,~~
R4138	RS1/16SS151J-T	RS1/16S

ITEM	USED	
C	4101-4148	4 4 4 4
CN	4101-4110	4 4
F	4101-4116, 4118, 4120-4127	4
IC	4101, 4102	4
L	4101, 4102	
Q	4101-4110	4
R	4101-4106, 4108-4030, 4132, 4133, 4135-4162, 4180-4182, 4191	4 4 4 4
S	4101	

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.


from/to EMMA2
EMMA2[0:163]
RXD_MD
TXD_MD
from POWER SUPPLY
to P8
to P9
M3
M2
CN4105 KM200NA15
CN4106 KM200NA12
to FAN
M13
M4
CN4104 AKM1274-TBB
CN4103 KM200NA3
V+6_5V_ANT
V+16_5V
V+6_5V
V+12V
V+5_1V_STB
V+3_3V_STB
V+35V
V+3_3V_UCOM
V+3_3V_D4_LVDS_PLL_A
V+3_3V_D4_LVDS_OUT
LVDS Tx
Aside
S4101
XGA
FHD
Input Clock Triggering Edge Select H:Rising edge L:Falling edge
from EMMA2
RELAY2
M_SW_DET_B
RST3
Q4108
Q4101
Q4107
RT1N241M-TLB
from IF_UCOM
IF_UCOM[0:100]
M_SW_DET
AC_DET
AC_DET_DRV
FAN_VCC1
FAN_VCC2
FAN_NG1
FAN_NG2
for FHD
M5
CN4108 KM200NA4
for FHD
ZD, ZG
RS1/16SS101J-T
V+3_3V_D4
V+3_3V_D4_LVDS
V+3_3V_D4_LVDS_OUT
V+3_3V_D4_LVDS_PLL_A
V+3_3V_D4_LVDS_LVDS
R4150
R4141
R4142
R4143
Except for XGA Regular
(for XD, XG, XC, ~~ZD, 0ZD,~~ ZG)
to USB CONNECTOR
CN4110 AKM1276-TBB
from USB
USB1_VBUS
USB1_D_NEG
USB1_D_POS
USB1_GND
1 VBUS
2 D-
3 D+
4 GND
5 SHIELD
M21
XD, XG, XC, ZD, 0ZD, ZG
Bside
Impedance 90Ω
NO USE
GND

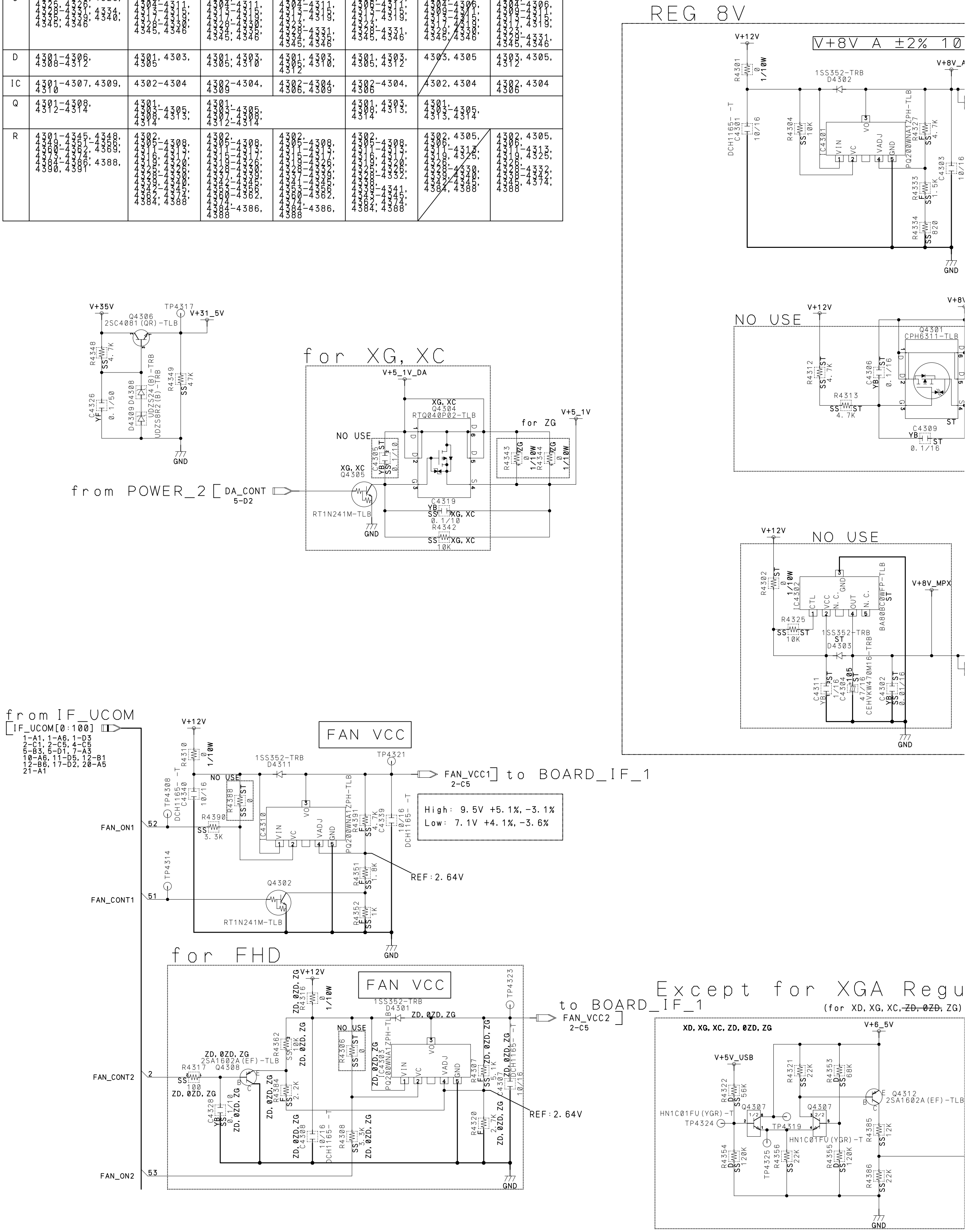
	VACANT		
	XGA		FHD
		Reguler	
	AWV2523-/ AWV2465-/ AWV2466-	AWV2524-/ AWV2463-	~~AWV2464-/AWV2522-~~ AWV2467-
	4103, 4105-4107, 4110-4120, 4123-4126, 4128, 4130, 4137, 4138, 4140-4145, 4147, 4148		4103, 4110, 4113-4120, 4123-4126, 4128, 4130, 4137, 4138, 4143-4145, 4148
	4102, 4104, 4108,	4102, 4104, 4108, 4110	4102, 4104
4118,	4101-4112, 4125		4101-4112, 4127
	4102		
	4102		4102
4132, 4162, 4191	4104, 4105, 4109, 4112, 4116-4118, 4124, 4128, 4146, 4148, 4155-4157, 4160, 4161, 4184, 4191		4104, 4105, 4109, 4118, 4124, 4128, 4146, 4148, 4160, 4161, 4184, 4191

MAIN ASS'Y (EU/IBD/CHN) (02/22)
BOARD_IF_1 BLOCK

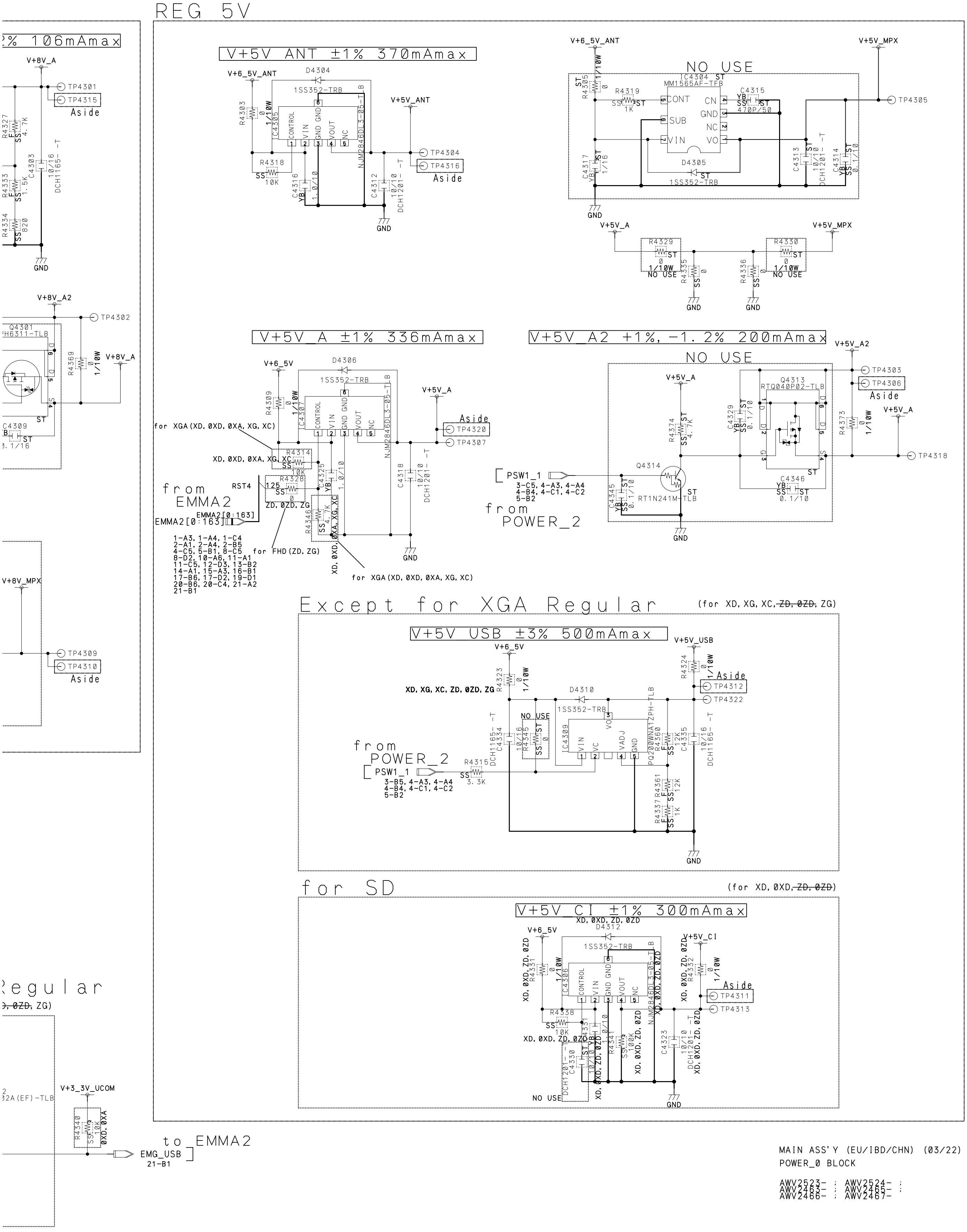
AWV2523- : AWV2524- :
AWV2465- : AWV2463- :
AWV2466- : AWV2467-

9.3 MAIN ASSY (3/20) [POWER 0 BLOCK]

ITEM	USED	VACANT					
		AWV2523-	AWV2524-	AWV2463-	AWV2465-/ AWV2466-	AWV2464-/ AWV2522-	AWV2467-
C	4301-4319, 4323, 4325, 4326, 4328-4331, 4334, 4335, 4339, 4340, 4345, 4346	4302, 4304-4311, 4313-4315, 4317, 4319, 4328-4330, 4345, 4346	4302, 4304-4311, 4313-4315, 4317, 4319, 4328-4330, 4334, 4335, 4345, 4346	4302, 4304-4311, 4313-4315, 4317, 4319, 4323, 4328-4331, 4334, 4335, 4345, 4346	4302, 4304, 4306-4311, 4313-4315, 4317, 4319, 4323, 4328-4331, 4345, 4346	4302, 4304-4306, 4309-4311, 4313-4315, 4317, 4319, 4329, 4330, 4345, 4346	4302, 4304-4306, 4309-4311, 4313-4315, 4317, 4319, 4323, 4329-4331, 4345, 4346
D	4301-4306, 4308-4312	4301, 4303, 4305	4301, 4303, 4305, 4310	4301, 4303, 4305, 4310, 4312	4301, 4303, 4305, 4312	4303, 4305	4303, 4305, 4312
IC	4301-4307, 4309, 4310	4302-4304	4302-4304, 4309	4302-4304, 4306, 4309	4302-4304, 4306	4302, 4304	4302, 4304 4306
Q	4301-4308, 4312-4314	4301, 4303-4305, 4308, 4313, 4314	4301, 4303-4305, 4307, 4308, 4312-4314		4301, 4303, 4308, 4313, 4314	4301, 4303-4305, 4313, 4314	
R	4301-4345, 4348, 4349, 4351-4356, 4360-4362, 4369, 4373, 4374, 4384-4386, 4388, 4390, 4391	4302, 4305-4308, 4311-4313, 4316, 4317, 4319, 4320, 4325, 4326, 4328-4330, 4339, 4340, 4342-4345, 4362, 4374, 4384, 4388	4302, 4305-4308, 4311-4313, 4315-4317, 4319-4326, 4328-4330, 4337, 4339, 4342-4345, 4353-4356, 4360-4362, 4374, 4384-4386, 4388	4302, 4305-4308, 4311-4313, 4315-4317, 4319-4326, 4328-4332, 4337-4339, 4341-4345, 4353-4356, 4360-4362, 4374, 4384-4386, 4388	4302, 4305-4308, 4311-4313, 4316, 4317, 4319, 4320, 4325, 4326, 4328-4332, 4338, 4339-4341, 4343-4345, 4362, 4374, 4384, 4388	4302, 4305, 4306, 4311-4313, 4319, 4325, 4326, 4328-4330, 4339, 4340, 4342-4345, 4384, 4388	4302, 4305, 4306, 4311-4313, 4319, 4325, 4326, 4328-4332, 4338-4342, 4345, 4374, 4388


REG 8V
V+8V_A ±2% 10
V+12V
R4301 0 1/10W
1SS352-TRB D4302
DCH1165- -T C4301 10/16
R4304 SS 10K
IC4301 VIN VC VO VADJ GND
PQ200WNA1ZPH-TLB
R4327 F SS 4.7K
V+8V_A
C4303 10/16
R4333 F SS 1.5K
R4334 SS 820
GND
NO USE
V+12V
V+8V
Q4301 CPH6311-TLB
R4312 SS ST 4.7K
C4306 YB ST 0.1/16
R4313 SS ST 4.7K
C4309 YB ST 0.1/16
NO USE
V+12V
R4302 0 1/10W
IC4302 CTL VCC N.C. GND OUT N.C.
BA08BC0WFP-TLB ST
V+8V_MPX
R4325 SS ST 10K
1SS352-TRB ST D4303
C4311 YB ST 1/16
C4304 ST 105 47/16 CEHVKW470M16-TRB
C4302 YB SS ST 0.01/16
GND
V+35V
TP4317
V+31_5V
Q4306 2SC4081(QR)-TLB
R4348 SS 4.7K
C4326 YF 0.1/50
D4308 UDZS24(B)-TRB
D4309 UDZS8R2(B)-TRB
R4349 SS 47K
GND
for XG, XC
V+5_1V_DA
XG, XC Q4304 RTQ040P02-TLB
NO USE
C4305 YB SS ST 0.1/10
XG, XC Q4305
RT1N241M-TLB
from POWER_2
DA_CONT 5-D2
for ZG
V+5_1V
R4343 ZG 0 1/10W
R4344 ZG 0 1/10W
C4319 YB SS XG, XC 0.1/10
R4342 SS XG, XC 10K
GND
from IF_UCOM
IF_UCOM[0:100]
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 4-C5
5-B3, 5-D1, 7-A3
10-A6, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
FAN VCC
V+12V
R4310 0 1/10W
1SS352-TRB D4311
TP4321
FAN_VCC1
to BOARD_IF_1 2-C5
TP4308
DCH1165- -T C4340 10/16
NO USE R4388 SS ST 0
R4390 SS 3.3K
IC4310 VIN VC VO VADJ GND
PQ200WNA1ZPH-TLB
R4391 SS 4.7K
C4339 10/16 DCH1165- -T
High: 9.5V +5.1%, -3.1%
Low: 7.1V +4.1%, -3.6%
FAN_ON1 52
TP4314
REF: 2.64V
R4351 F SS 1.8K
Q4302
FAN_CONT1 51
RT1N241M-TLB
R4352 F SS 1K
GND
for FHD
FAN VCC
V+12V
R4316 ZD, 0ZD, ZG 0 1/10W
1SS352-TRB D4301 ZD, 0ZD, ZG
TP4323
to BOARD_IF_1
FAN_VCC2 2-C5
ZD, 0ZD, ZG 2SA1602A(EF)-TLB Q4308
R4362 SS 10K ZD, 0ZD, ZG
NO USE R4306 SS ST 0
IC4303 ZD, 0ZD, ZG VIN VC VO VADJ GND
PQ200WNA1ZPH-TLB
R4307 SS 5.1K ZD, 0ZD, ZG
C4307 DCH1165- -T 10/16 ZD, 0ZD, ZG
FAN_CONT2 2
R4317 SS 100 ZD, 0ZD, ZG
R4364 F SS 2.2K ZD, 0ZD, ZG
C4328 YB SS 0.1/10 ZD, 0ZD, ZG
C4308 DCH1165- -T 10/16 ZD, 0ZD, ZG
R4308 SS 3.3K ZD, 0ZD, ZG
R4320 F SS 2.7K ZD, 0ZD, ZG
REF: 2.64V
FAN_ON2 53
GND
Except for XGA Regu
(for XD, XG, XC, ~~ZD, 0ZD,~~ ZG)
XD, XG, XC, ZD, 0ZD, ZG
V+6_5V
V+5V_USB
R4322 D SS 56K
R4321 SS 22K
R4353 D SS 68K
Q4312 2SA1602A(EF)-TLB
Q4307 1/2
Q4307 2/2
HN1C01FU(YGR)-T
TP4324
TP4319
HN1C01FU(YGR)-T
R4385 SS 12K
R4354 D SS 120K
TP4325
R4356 SS 22K
R4355 D SS 120K
R4386 SS 22K
GND

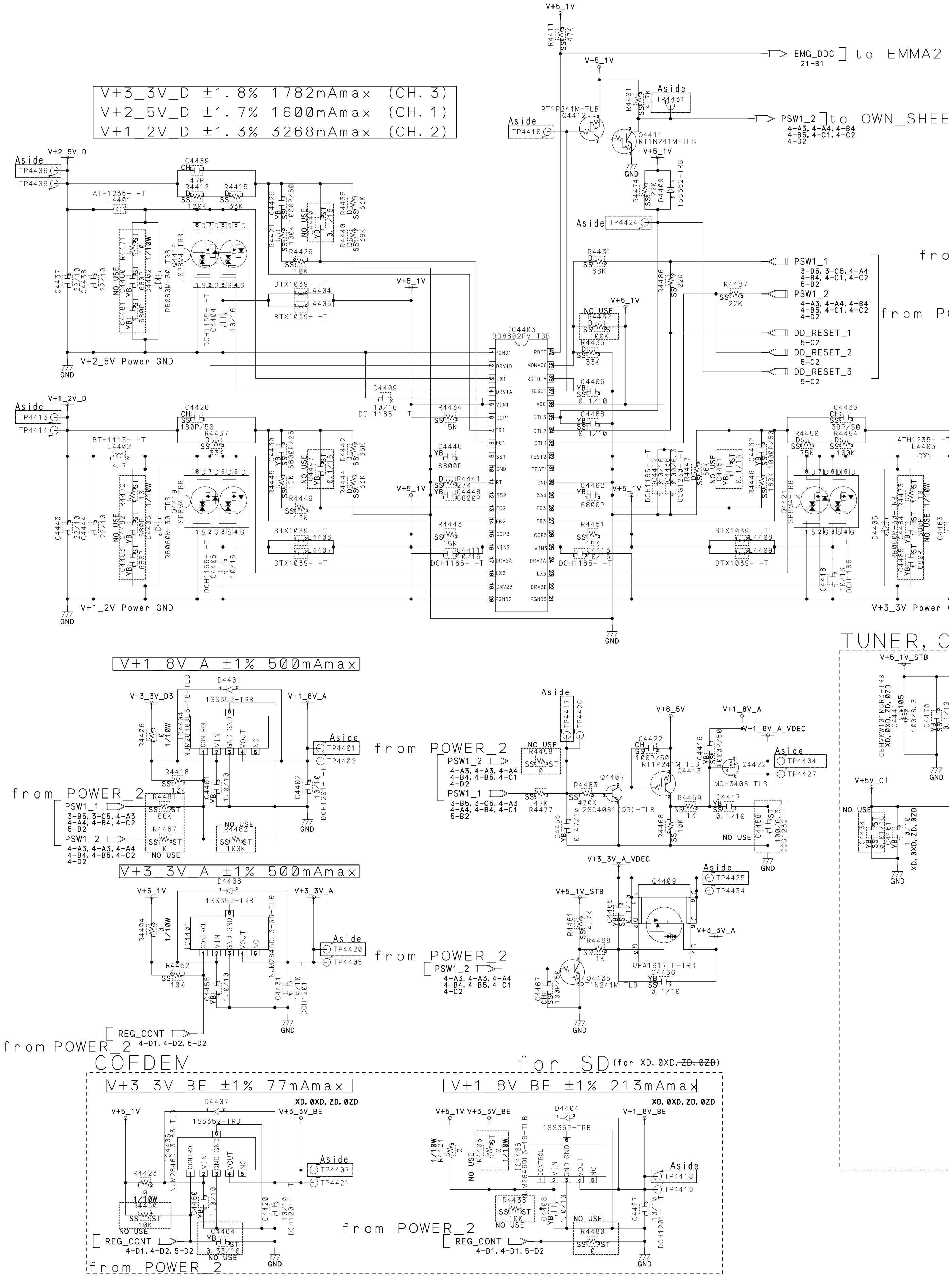
The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.


REG 5V
2% 106mAmax
V+8V_A
TP4301
TP4315
Aside
R4327 4.7K
R4333 1.5K
R4334 820
C4303 10/16 DCH1165- -T
GND
V+8V_A2
TP4302
Q4301
PH6311-TLB
R4369 0 1/10W
V+8V_A
C4309 0.1/16
ST
V+8V_MPX
TP4309
TP4310
Aside
Regular
(~~ZD, 0ZD~~, ZG)
V+3_3V_UCOM
2A(EF)-TLB
R4340 10K 0XD, 0XA
to EMMA2
EMG_USB
21-B1
V+5V ANT ±1% 370mAmax
V+6_5V_ANT
D4304
1SS352-TRB
R4303 1/10W
IC4305
CONTROL VIN GND GND VOUT NC
NJM2846DL3-05-TLB
R4318 10K
C4316 1.0/10
C4312 10/10 DCH1201- -T
V+5V_ANT
TP4304
TP4316
Aside
GND
V+6_5V_ANT
V+5V_MPX
NO USE
R4305 0 1/10W
IC4304
MM1565AF-TFB
R4319 1K
CONT SUB VIN CN GND NC VO
C4315 470P/50
D4305
1SS352-TRB
C4317 1/16
C4313 10/10 DCH1201- -T
C4314 0.1/10
TP4305
GND
V+5V_A
V+5V_MPX
R4329 0 1/10W NO USE
R4330 0 1/10W NO USE
R4335 0
R4336 0
GND
V+5V_A ±1% 336mAmax
V+6_5V
D4306
1SS352-TRB
R4309 0 1/10W
IC4307
CONTROL VIN GND GND VOUT NC
NJM2846DL3-05-TLB
V+5V_A
Aside
TP4320
TP4307
for XGA(XD, 0XD, 0XA, XG, XC)
XD, 0XD, 0XA, XG, XC
R4314 10K
R4328
RST4
125
ZD, 0ZD, ZG
C4325 1.0/10
C4318 10/10 DCH1201- -T
R4346 4.7K
XD, 0XD, 0XA, XG, XC
from EMMA2
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 10-A6, 11-A1
11-C5, 12-D3, 13-B2
14-A1, 15-A3, 16-B1
17-B6, 17-D2, 19-D1
20-B6, 20-C4, 21-A2
21-B1
for FHD(ZD, ZG)
for XGA(XD, 0XD, 0XA, XG, XC)
GND
V+5V_A2 +1%, -1.2% 200mAmax
NO USE
V+5V_A2
V+5V_A
TP4303
TP4306
Aside
Q4313
RTQ040P02-TLB
R4374 4.7K
C4329 0.1/10
R4373 0 1/10W
V+5V_A
TP4318
PSW1_1
3-C5, 4-A3, 4-A4
4-B4, 4-C1, 4-C2
5-B2
from POWER_2
Q4314
RT1N241M-TLB
C4345 0.1/10
C4346 0.1/10
GND
Except for XGA Regular
(for XD, XG, XC, ~~ZD, 0ZD~~, ZG)
V+5V USB ±3% 500mAmax
V+6_5V
V+5V_USB
R4323 0 1/10W
XD, XG, XC, ZD, 0ZD, ZG
R4324 0 1/10W
Aside
TP4312
TP4322
D4310
1SS352-TRB
NO USE
R4345 0
IC4309
VIN VC VO VADJ GND
PQ200WNA1ZPH-TLB
C4334 10/16 DCH1165- -T
R4360 12K
C4335 10/16 DCH1165- -T
from POWER_2
PSW1_1
3-B5, 4-A3, 4-A4
4-B4, 4-C1, 4-C2
5-B2
R4315 3.3K
R4337 R4361 1K 12K
GND
for SD
(for XD, 0XD, ~~ZD, 0ZD~~)
V+5V CI ±1% 300mAmax
XD, 0XD, ZD, 0ZD
D4312
1SS352-TRB
V+6_5V
V+5V_CI
R4331 0 1/10W
XD, 0XD, ZD, 0ZD
IC4306
CONTROL VIN GND GND VOUT NC
NJM2846DL3-05-TLB
XD, 0XD, ZD, 0ZD
R4332 0 1/10W
XD, 0XD, ZD, 0ZD
Aside
TP4311
TP4313
R4338 10K
XD, 0XD, ZD, 0ZD
C4331 1.0/10
R4341 100K
XD, 0XD, ZD, 0ZD
C4330 10/10 DCH1201- -T
C4323 10/10 DCH1201- -T
XD, 0XD, ZD, 0ZD
NO USE
GND

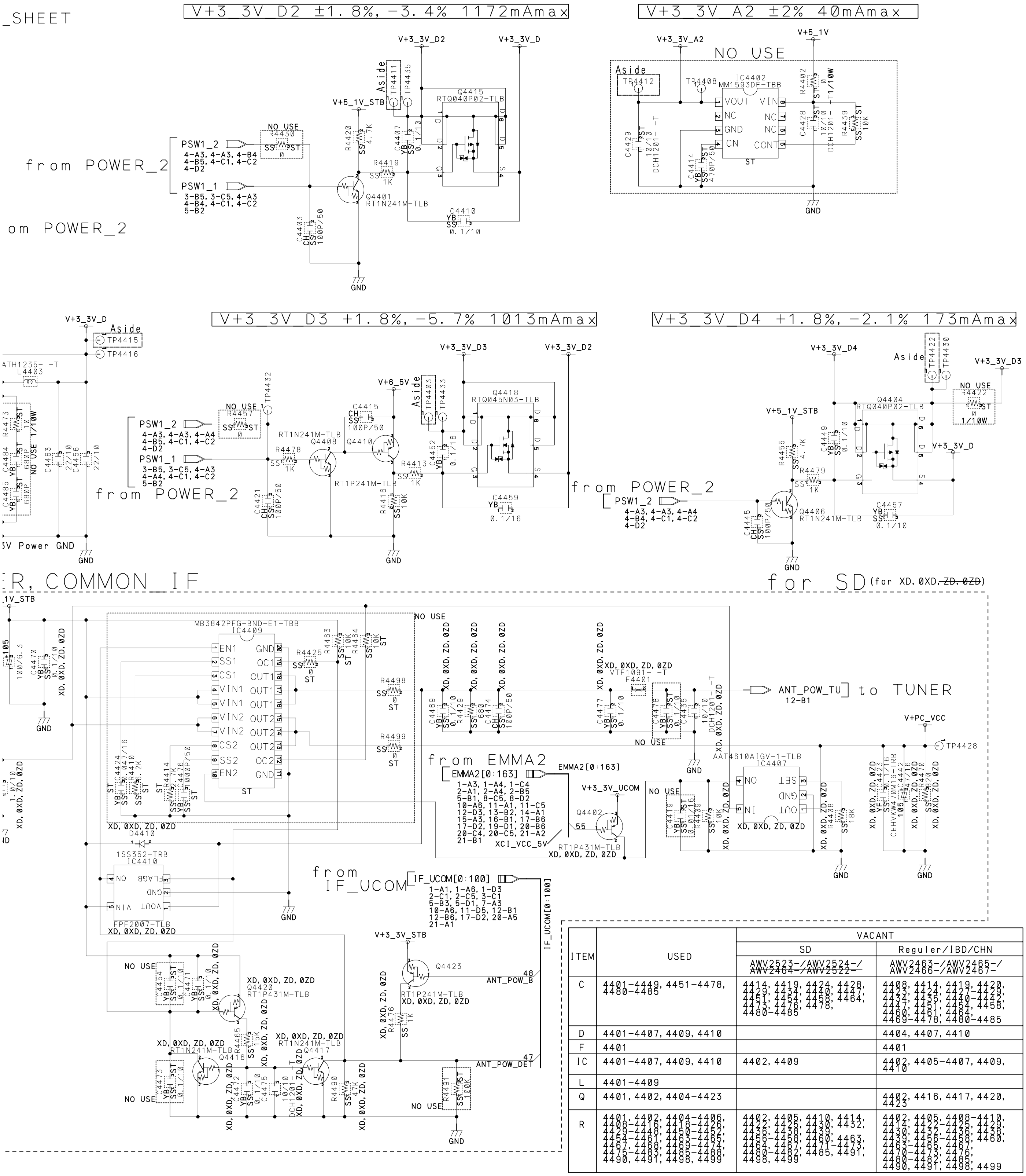
MAIN ASS'Y (EU/IBD/CHN) (03/22)
POWER_0 BLOCK

AWV2523- : AWV2524- :
AWV2463- : AWV2465- :
AWV2466- : AWV2467-

9.4 MAIN ASSY (4/20) [POWER 1 BLOCK]


A
B
C
D
E
F
V+3_3V_D ±1.8% 1782mAmax (CH.3)
V+2_5V_D ±1.7% 1600mAmax (CH.1)
V+1_2V_D ±1.3% 3268mAmax (CH.2)
V+5_1V
EMG_DDC
21-B1
to EMMA2
PSW1_2
4-A3, 4-A4, 4-B4
4-B5, 4-C1, 4-C2
4-D2
to OWN_SHEE
Aside
TP4431
TP4410
TP4424
TP4406
TP4409
TP4413
TP4414
RT1P241M-TLB
Q4412
Q4411
RT1N241M-TLB
1SS352-TRB
D4409
V+2_5V_D
V+1_2V_D
ATH1235- -T
L4401
BTH1113- -T
L4402
Q4414
SP8M4-TBB
Q4419
RB060M-30-TRB
D4402
D4403
BTX1039- -T
L4404
L4405
L4406
L4407
L4408
L4409
DCH1165- -T
IC4403
BD8602FV-TBB
PGND1
DRV1B
LX1
DRV1A
VIN1
OCP1
FB1
FC1
SS1
GND
RT
SS2
FC2
FB2
OCP2
VIN2
DRV2A
LX2
DRV2B
PGND2
PDET
MONVCC
RSTDLY
RESET
VCC
CTL3
CTL2
CTL1
TEST2
TEST1
SS3
FC3
FB3
OCP3
VIN3
DRV3A
LX3
DRV3B
PGND3
PSW1_1
3-B5, 3-C5, 4-A4
4-B4, 4-C1, 4-C2
5-B2
PSW1_2
DD_RESET_1
5-C2
DD_RESET_2
5-C2
DD_RESET_3
5-C2
from PO
fro
V+2_5V Power GND
V+1_2V Power GND
V+3_3V Power
GND
Q4421
D4405
ATH1235- -T
L4403
NO USE
TUNER, C
V+5_1V_STB
V+5V_CI
CEHVKW101M6R3-TRB
XD, 0XD, ZD, 0ZD
V+1_8V_A ±1% 500mAmax
V+3_3V_D3
V+1_8V_A
D4401
1SS352-TRB
IC4404
NJM2846DL3-18-TLB
CONTROL
VIN
GND GND
VOUT
NC
TP4401
TP4402
from POWER_2
PSW1_1
3-B5, 3-C5, 4-A3
4-A4, 4-B4, 4-C2
5-B2
PSW1_2
4-A3, 4-A3, 4-A4
4-B4, 4-B5, 4-C2
4-D2
DCH1201- -T
V+3_3V_A ±1% 500mAmax
V+5_1V
V+3_3V_A
D4406
IC4401
NJM2846DL3-33-TLB
TP4420
TP4405
REG_CONT
4-D1, 4-D2, 5-D2
from POWER_2
V+6_5V
V+1_8V_A
V+1_8V_A_VDEC
TP4417
TP4426
TP4404
TP4427
Q4407
2SC4081(QR)-TLB
Q4413
RT1P241M-TLB
Q4422
MCH3406-TLB
CCG1232-
V+3_3V_A_VDEC
V+5_1V_STB
TP4425
TP4434
Q4409
UPA1917TE-TRB
V+3_3V_A
Q4405
RT1N241M-TLB
COFDEM
for SD (for XD, 0XD, ~~ZD, 0ZD~~)
V+3_3V_BE ±1% 77mAmax
V+1_8V_BE ±1% 213mAmax
XD, 0XD, ZD, 0ZD
V+3_3V_BE
D4407
IC4405
NJM2846DL3-33-TLB
TP4407
TP4421
D4404
V+5_1V V+3_3V_BE
V+1_8V_BE
IC4406
NJM2846DL3-18-TLB
TP4418
TP4419
REG_CONT
4-D1, 4-D1, 5-D2
from POWER_2

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.


MMA2
_SHEET
V+3 3V D2 ±1.8%, −3.4% 1172mAmax
V+3 3V A2 ±2% 40mAmax
V+3_3V_D2
V+3_3V_D
V+3_3V_A2
V+5_1V
NO USE
Aside
TP4411
TP4435
TP4412
TP4408
IC4402
MM1593DF-TBB
VOUT
VIN
NC
GND
CN
CONT
ST
R4402
T1/10W
C4428
R4439
10K
C4429
10/10
DCH1201- -T
C4414
470P/50
GND
V+5_1V_STB
Q4415
RTQ040P02-TLB
R4430
PSW1_2
4-A3, 4-A3, 4-B4
4-B5, 4-C1, 4-C2
4-D2
PSW1_1
3-B5, 3-C5, 4-A3
4-B4, 4-C1, 4-C2
5-B2
from POWER_2
om POWER_2
R4420
4.7K
C4407
0.1/10
R4419
1K
Q4401
RT1N241M-TLB
C4410
0.1/10
C4403
100P/50
V+3 3V D3 +1.8%, −5.7% 1013mAmax
V+3_3V_D4 +1.8%, −2.1% 173mAmax
V+3_3V_D
TP4415
TP4416
ATH1235- -T
L4403
R4473
C4484
C4485
680P
NO USE 1/10W
C4463
C4456
22/10
5V Power GND
TP4432
R4457
V+6_5V
C4415
100P/50
RT1N241M-TLB
Q4408
Q4410
R4478
1K
RT1P241M-TLB
C4421
100P/50
R4416
10K
TP4403
TP4433
V+3_3V_D3
V+3_3V_D2
Q4418
RTQ045N03-TLB
C4452
0.1/16
R4413
1K
C4459
0.1/16
V+3_3V_D4
TP4422
TP4430
V+3_3V_D3
Q4404
RTQ040P02-TLB
R4422
1/10W
R4455
4.7K
C4449
0.1/10
R4479
1K
Q4406
RT1N241M-TLB
C4445
100P/50
C4457
0.1/10
ER, COMMON_IF
for SD(for XD, 0XD, ~~ZD, 0ZD~~)
_1V_STB
MB3842PFG-BND-E1-TBB
IC4409
EN1
SS1
CS1
VIN1
VIN2
CS2
SS2
EN2
GND
OC1
OUT1
OUT2
OC2
R4425
R4463
R4464
10K
R4498
R4499
C4470
100/6.3
XD, 0XD, ZD, 0ZD
C4469
R4429
680
C4474
100P/50
C4477
VTF1091- -T
F4401
C4478
C4435
10/10
DCH1201- -T
ANT_POW_TU
12-B1
to TUNER
V+PC_VCC
TP4428
C4424
0.047/16
R4410
6.2K
C4414
C4476
1000P/50
from EMMA2
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
5-B1, 8-C5, 8-D2
10-A6, 11-A1, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
XC1_VCC_5V
V+3_3V_UCOM
Q4402
RT1P431M-TLB
AAT4610AIGV-1-TLB
IC4407
ON
SET
GND
OUT
IN
C4419
R4409
R4408
18K
C4423
CEHVKW470M16-TRB
R4470
D4410
1SS352-TRB
IC4410
FLAGB
VOUT
VIN
FPF2007-TLB
from IF_UCOM
IF_UCOM[0:100]
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
5-B3, 5-D1, 7-A3
10-A6, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
V+3_3V_STB
Q4423
RT1P241M-TLB
ANT_POW_B
R4476
C4454
C4471
Q4420
RT1P431M-TLB
RT1N241M-TLB
Q4416
R4465
15K
Q4417
C4473
C4472
C4475
R4490
47K
R4491
100K
ANT_POW_DET

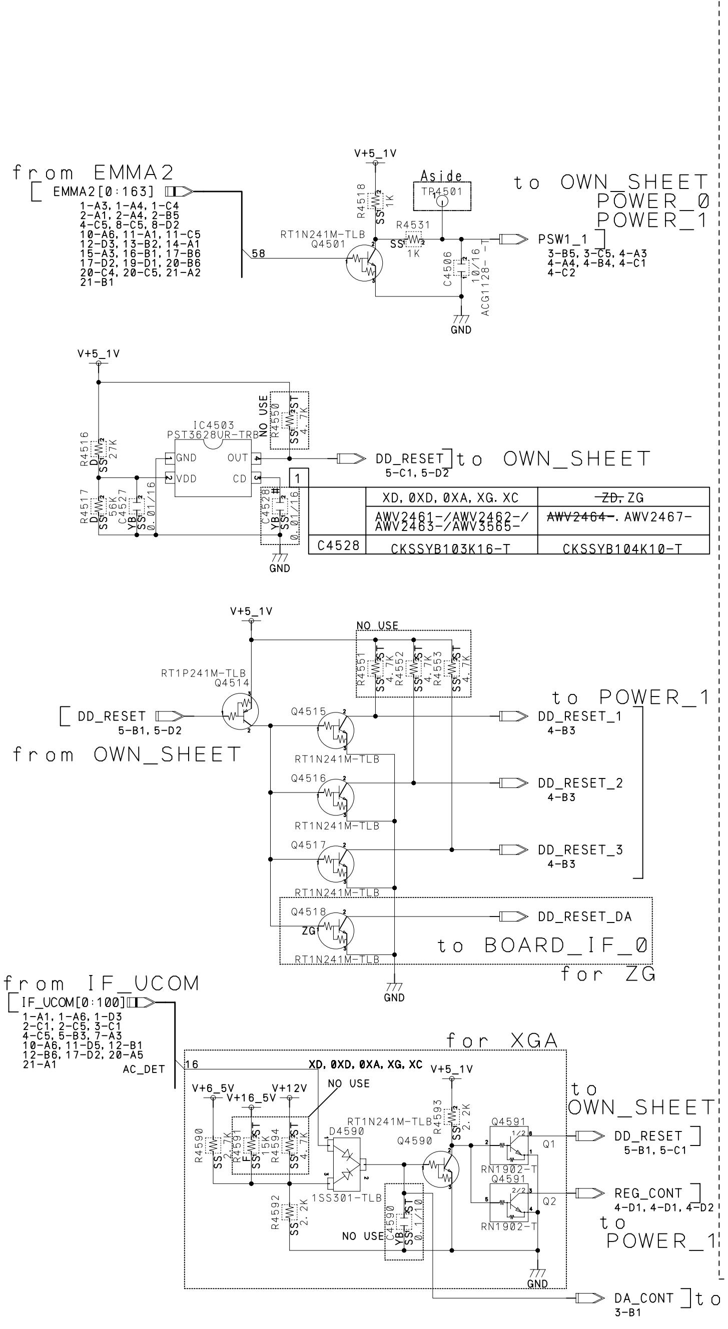
ITEM	USED	VACANT	
		SD	Reguler/IBD/CHN
		AWV2523-/AWV2524-/ ~~AWV2464-/AWV2522-~~	AWV2463-/AWV2465-/ AWV2466-/AWV2467-
C	4401-4449, 4451-4478, 4480-4485	4414, 4419, 4424, 4428, 4429, 4434, 4440, 4447, 4451, 4454, 4458, 4464, 4473, 4476, 4478, 4480-4485	4408, 4414, 4419, 4420, 4423, 4424, 4427-4429, 4434, 4435, 4440-4442, 4447, 4451, 4454, 4458, 4460, 4461, 4464, 4469-4478, 4480-4485
D	4401-4407, 4409, 4410		4404, 4407, 4410
F	4401		4401
IC	4401-4407, 4409, 4410	4402, 4409	4402, 4405-4407, 4409, 4410
L	4401-4409		
Q	4401, 4402, 4404-4423		4402, 4416, 4417, 4420, 4423
R	4401, 4402, 4404-4406, 4408-4416, 4418-4426, 4429-4448, 4450-4452, 4454-4461, 4463-4465, 4467, 4468, 4469-4474, 4475-4483, 4485-4488, 4490, 4491, 4498, 4499	4402, 4405, 4410, 4414, 4422, 4425, 4430, 4432, 4436, 4438, 4439, 4456-4458, 4460, 4463, 4464, 4467, 4471-4473, 4480-4482, 4485, 4491, 4498, 4499	4402, 4405, 4408-4410, 4414, 4422-4425, 4429, 4430, 4432, 4436, 4438, 4439, 4456-4458, 4460, 4463-4465, 4467, 4470-4473, 4476, 4480-4482, 4485, 4490, 4491, 4498, 4499

MAIN ASS'Y (EU/IBD/CHN) (04/22)
POWER_1 BLOCK

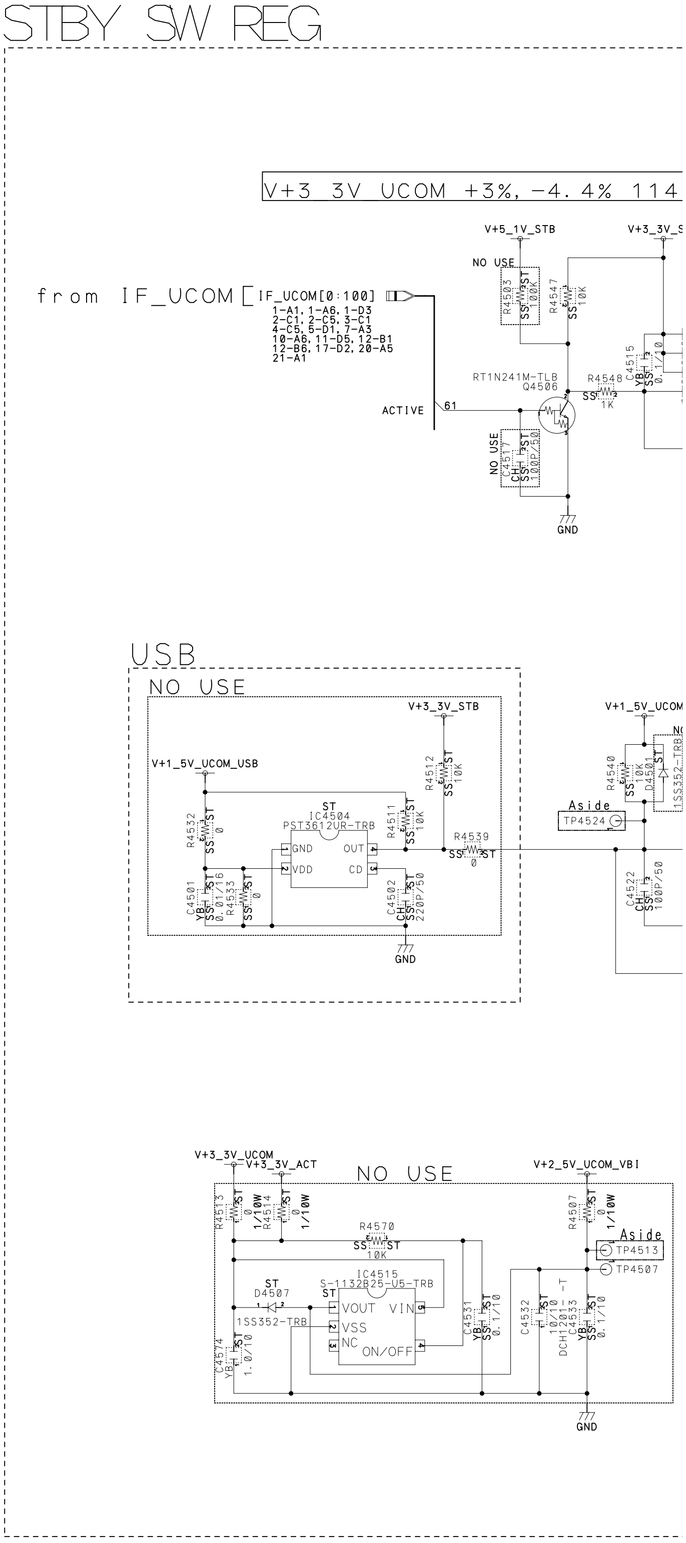
AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

9.5 MAIN ASSY (5/20) [POWER 2 BLOCK]

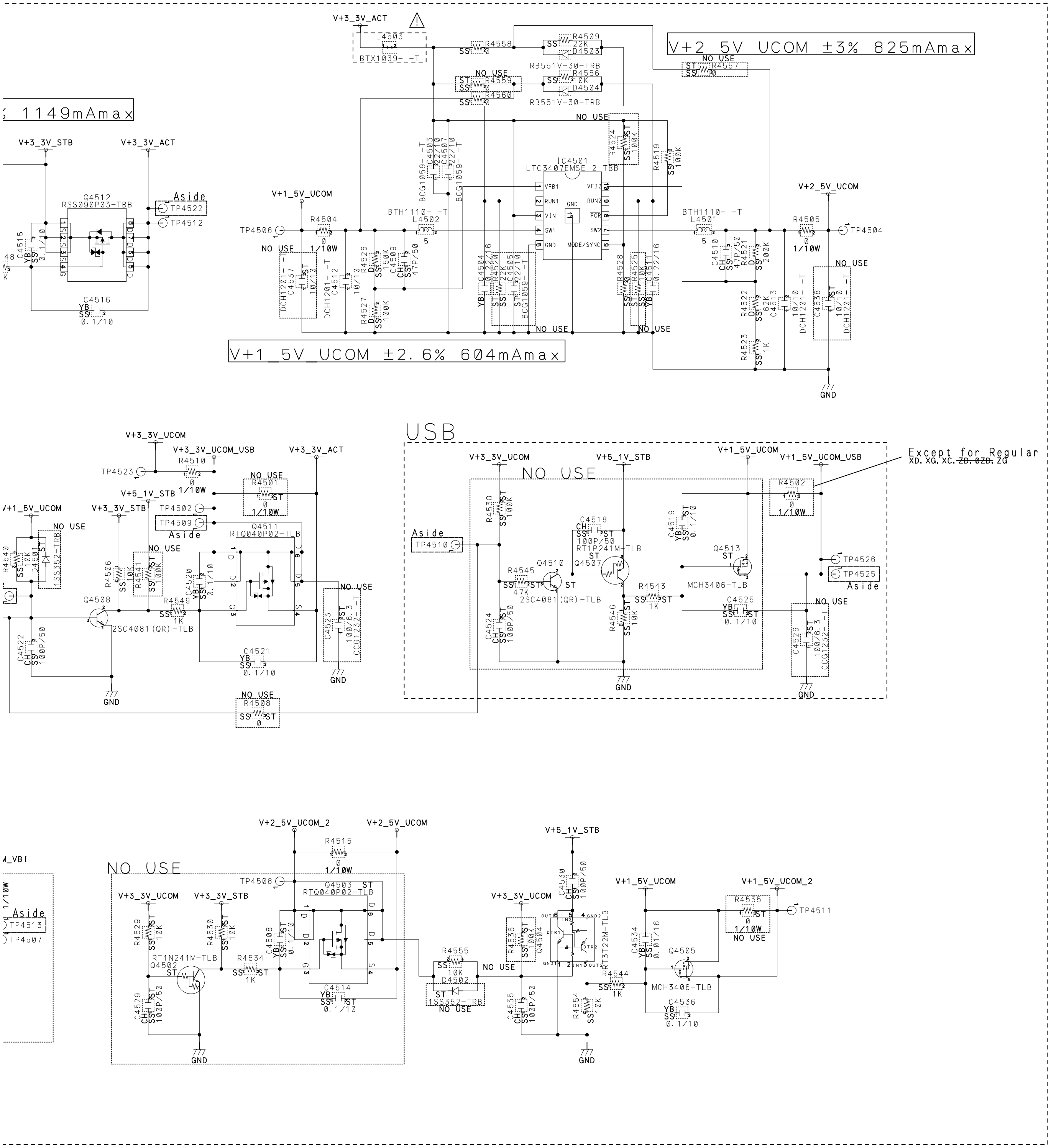
ITEM	USED	VACANT		
		XGA		FHD
			Reguler	
		AWV2523-/ AWV2465-/ AWV2466-	AWV2524-/ AWV2463-	~~AWV2464-/AWV2522-~~ AWV2467-
C	4501-4538, 4574, 4590	4501, 4502, 4505, 4508, 4514, 4517-4519, 4523-4526, 4529, 4531-4533, 4537, 4538, 4574, 4590		
D	4501-4504, 4507, 4590	4501, 4502, 4507, 4590		4501, 4502, 4507
IC	4101, 4103, 4504, 4515	4504, 4515		
L	4501-4503			
Q	4501-4508, 4510-4517, 4590, 4591	4502, 4503, 4507, 4510, 4513, 4590, 4591		4502, 4503, 4507, 4510, 4513
R	4501-4536, 4538-4541, 4543-4560, 4570, 4590-4594	4501, 4503, 4507, 4508, 4511-4514, 4520, 4524, 4525, 4529, 4530, 4532-4536, 4538, 4539, 4541, 4543, 4545, 4546, 4550-4553, 4557, 4559, 4570, 4591, 4594	4501-4503, 4507, 4508, 4511-4514, 4520, 4524, 4525, 4529, 4530, 4532-4536, 4538, 4539, 4541, 4543, 4545, 4546, 4550-4553, 4557, 4559, 4570, 4591, 4594	4501, 4503, 4507, 4508, 4511-4514, 4520, 4524, 4525, 4529, 4530, 4532-4536, 4538, 4539, 4541, 4543, 4545, 4546, 4550-4553, 4557, 4559, 4570, 4590-4594


from EMMA2
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 8-C5, 8-D2
10-A6, 11-A1, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
58
V+5_1V
R4518 SS 1K
Aside
TP4501
to OWN_SHEET
POWER_0
POWER_1
RT1N241M-TLB
Q4501
R4531 SS 1K
PSW1_1
3-B5, 3-C5, 4-A3
4-A4, 4-B4, 4-C1
4-C2
C4506 10/16 ACG1128-T
GND
V+5_1V
IC4503
PST3628UR-TRB
GND OUT
VDD CD
R4516 D 27K
R4517 D 56K
C4527 YB SS 0.01/16
NO USE
R4550 SS ST 4.7K
C4528 YB SS 0.01/16
DD_RESET
5-C1, 5-D2
to OWN_SHEET
1
GND
V+5_1V
NO USE
R4551 SS ST 4.7K
R4552 SS ST 4.7K
R4553 SS ST 4.7K
RT1P241M-TLB
Q4514
DD_RESET
5-B1, 5-D2
from OWN_SHEET
Q4515
RT1N241M-TLB
Q4516
RT1N241M-TLB
Q4517
RT1N241M-TLB
Q4518
ZG
RT1N241M-TLB
to POWER_1
DD_RESET_1
4-B3
DD_RESET_2
4-B3
DD_RESET_3
4-B3
DD_RESET_DA
to BOARD_IF_0
for ZG
GND
from IF_UCOM
IF_UCOM[0:100]
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
4-C5, 5-B3, 7-A3
10-A6, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
AC_DET
16
for XGA
XD, 0XD, 0XA, XG, XC
NO USE
V+6_5V
V+16_5V
V+12V
V+5_1V
R4590 SS 2.2K
R4591 F 15K
R4594 SS ST 4.7K
RT1N241M-TLB
D4590
1SS301-TLB
Q4590
R4593 SS 2.2K
R4592 SS 2.2K
NO USE
C4590 YB SS ST 0.1/10
Q4591
Q1
RN1902-T
Q4591
Q2
RN1902-T
to OWN_SHEET
DD_RESET
5-B1, 5-C1
REG_CONT
4-D1, 4-D1, 4-D2
to POWER_1
GND
DA_CONT
3-B1
to POWER_0

	XD, 0XD, 0XA, XG. XC	~~ZD,~~ ZG
	AWV2461-/AWV2462-/ AWV2463-/AWV3565-	~~AWV2464-~~. AWV2467-
C4528	CKSSYB103K16-T	CKSSYB104K10-T


STBY SW REG
V+3 3V UCOM +3%, -4.4% 114
V+5_1V_STB
V+3_3V_S
NO USE
R4503 SS ST 100K
R4547 SS 10K
from IF_UCOM
IF_UCOM[0:100]
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
4-C5, 5-D1, 7-A3
10-A6, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
ACTIVE
61
RT1N241M-TLB
Q4506
R4548 SS 1K
C4515 YB SS 0.1/10
NO USE
C4517 CH SS ST 100P/50
GND
USB
NO USE
V+3_3V_STB
V+1_5V_UCOM_USB
R4512 SS ST 10K
ST
IC4504
PST3612UR-TRB
GND OUT
VDD CD
R4532 SS ST 0
R4511 SS ST 10K
R4539 SS ST 0
C4501 YB SS ST 0.01/16
R4533 SS ST 0
C4502 CH SS ST 220P/50
GND
V+1_5V_UCOM
R4540 SS 10K
D4501 1SS352-TRB
Aside
TP4524
C4522 CH 100P/50
V+3_3V_UCOM
V+3_3V_ACT
NO USE
V+2_5V_UCOM_VBI
R4513 ST 0 1/10W
R4514 ST 0 1/10W
R4570 SS ST 10K
R4507 ST 0 1/10W
Aside
TP4513
TP4507
ST
D4507
1SS352-TRB
ST
IC4515
S-1132B25-U5-TRB
VOUT VIN
VSS
NC ON/OFF
C4574 YB ST 1.0/10
C4531 YB SS ST 0.1/10
C4532 ST
C4533 DCH1201 10/10 -T
YB SS ST 0.1/10
GND

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

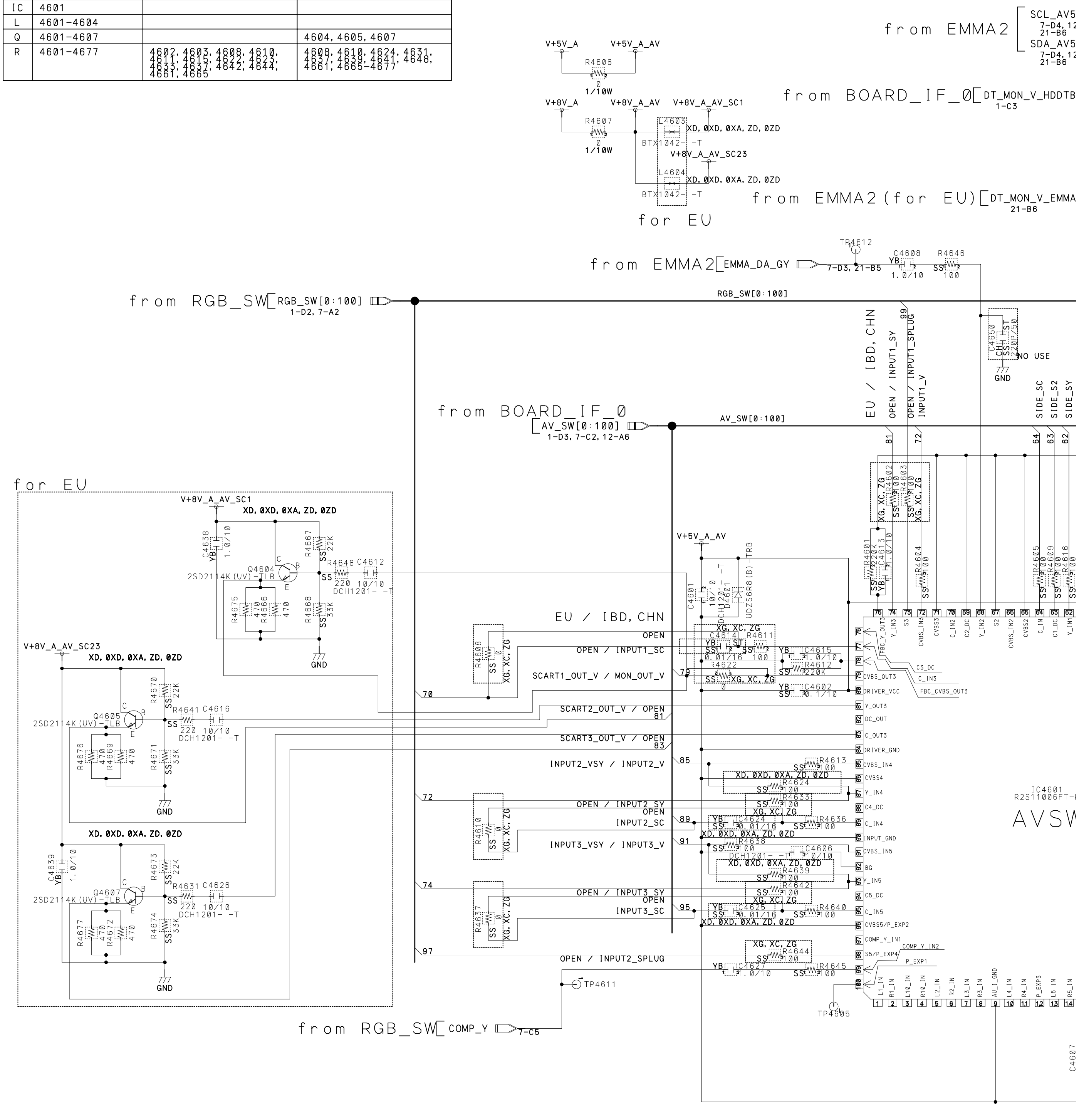

V+3_3V_ACT
L4503
BTX1039- -T
R4558
R4509
22K
D4503
RB551V-30-TRB
NO USE
R4559
R4560
R4556
10K
D4504
RB551V-30-TRB
V+2 5V UCOM ±3% 825mAmax
NO USE
R4557
1149mAmax
V+3_3V_STB
V+3_3V_ACT
Q4512
RSS090P03-TBB
Aside
TP4522
TP4512
C4515
C4516
0.1/10
IC4501
LTC3407EMSE-2-TBB
VFB1
RUN1
VIN
SW1
GND
VFB2
RUN2
POR
SW2
MODE/SYNC
R4524
100K
R4519
100K
C4503
C4507
BCG1059- -T
V+1_5V_UCOM
TP4506
R4504
0
1/10W
NO USE
C4537
DCH1201- -T
C4512
R4526
150K
C4509
47P/50
BTH1110- -T
L4502
5
R4527
100K
C4504
C4505
R4520
22K
NO USE
R4528
R4525
C4511
0.22/16
NO USE
V+2_5V_UCOM
BTH1110- -T
L4501
5
C4510
47P/50
R4521
200K
R4505
0
1/10W
TP4504
NO USE
C4538
DCH1201- -T
R4522
62K
C4513
10/10
R4523
1K
GND
V+1 5V UCOM ±2.6% 604mAmax
USB
V+3_3V_UCOM
V+3_3V_UCOM_USB
V+3_3V_ACT
TP4523
R4510
0
1/10W
NO USE
R4501
0
1/10W
V+5_1V_STB
TP4502
TP4509
Aside
Q4511
RTQ040P02-TLB
V+1_5V_UCOM
V+3_3V_STB
NO USE
R4540
10K
D4501
1SS352-TRB
R4506
R4541
100K
NO USE
C4520
0.1/10
R4549
1K
Q4508
2SC4081(QR)-TLB
C4522
100P/50
GND
C4521
0.1/10
NO USE
C4523
100/6.3
CCG1232- -T
GND
NO USE
R4508
0
V+3_3V_UCOM
V+5_1V_STB
V+1_5V_UCOM
V+1_5V_UCOM_USB
Except for Regular
XD, XG, XC, ~~ZD, 0ZD,~~ ZG
NO USE
R4502
0
1/10W
R4538
100K
C4518
100P/50
RT1P241M-TLB
Q4507
C4519
0.1/10
Q4513
Aside
TP4510
R4545
47K
Q4510
2SC4081(QR)-TLB
R4543
1K
MCH3406-TLB
C4525
0.1/10
TP4526
TP4525
Aside
NO USE
C4524
100P/50
R4546
10K
C4526
100/6.3
CCG1232- -T
GND
GND
V+2_5V_UCOM_2
V+2_5V_UCOM
R4515
0
1/10W
V+5_1V_STB
M_VBI
1/10W
Aside
TP4513
TP4507
NO USE
TP4508
Q4503
RTQ040P02-TLB
V+3_3V_UCOM
V+3_3V_STB
R4529
10K
R4530
10K
C4508
0.1/10
RT1N241M-TLB
Q4502
R4534
1K
C4514
0.1/10
C4529
100P/50
GND
R4555
10K
NO USE
D4502
1SS352-TRB
NO USE
V+3_3V_UCOM
R4536
100K
Q4504
C4530
100P/50
RT3T22M-TLB
C4535
100P/50
R4554
10K
R4544
1K
GND
V+1_5V_UCOM
V+1_5V_UCOM_2
C4534
0.01/16
Q4505
MCH3406-TLB
C4536
0.1/10
R4535
0
1/10W
NO USE
TP4511

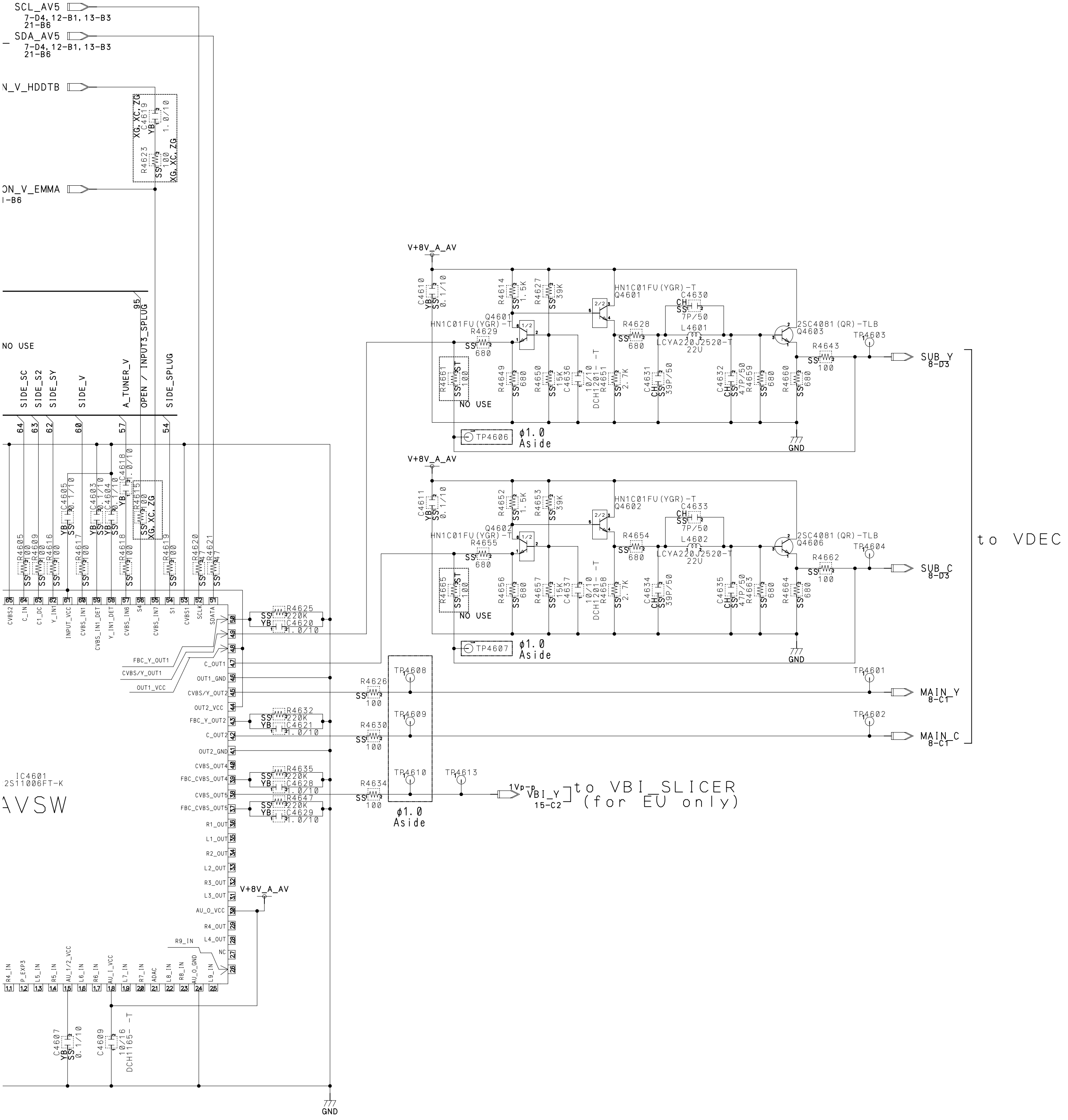
MAIN ASS'Y (EU/IBD/CHN) (05/22)
POWER_2 BLOCK

AWV2523- : AWV2524- :
AWV2463- : AWV2465- :
AWV2466- : AWV2467-

9.6 MAIN ASSY (6/20) [AV SW BLOCK]

ITEM	USED	VACANT	
		EU	IBD/CHN
		AWV2523-/AWV2524-/ AWV2463-/~~AWV2464-/~~ ~~AWV2522-~~	AWV2465-/AWV2466-/ AWV2467-
C	4601-4639, 4650	4614, 4617, 4619, 4622, 4623, 4650	4612, 4616, 4617, 4622, 4623, 4626, 4638, 4639, 4650
D	4601		
IC	4601		
L	4601-4604		
Q	4601-4607		4604, 4605, 4607
R	4601-4677	4602, 4603, 4608, 4610, 4611, 4615, 4622, 4623, 4633, 4637, 4642, 4644, 4661, 4665	4608, 4610, 4624, 4631, 4637, 4639, 4641, 4648, 4661, 4665-4677

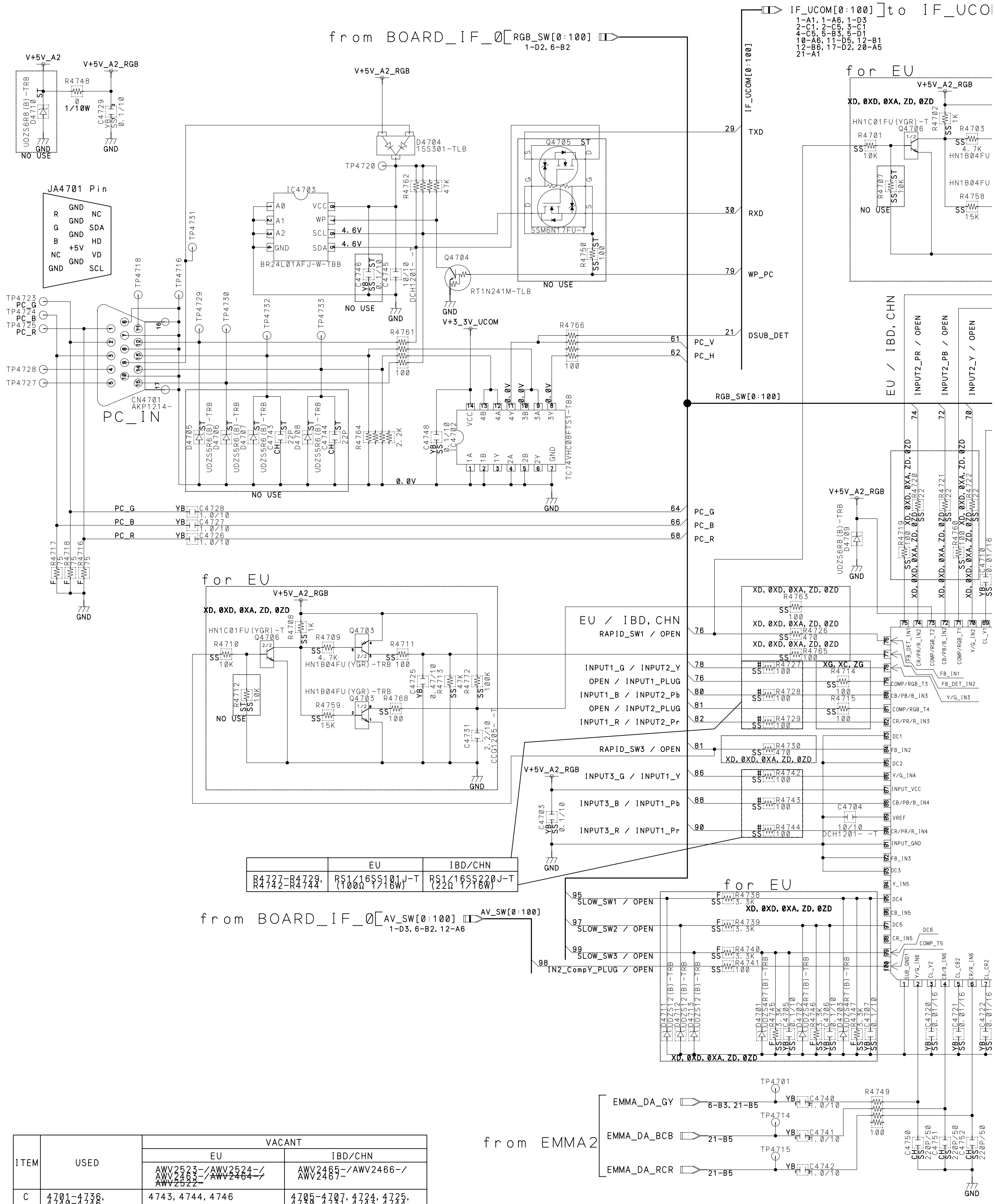

from EMMA2 [SCL_AV5 7-D4,12 21-B6 SDA_AV5 7-D4,12 21-B6
V+5V_A
V+5V_A_AV
R4606 0 1/10W
V+8V_A
V+8V_A_AV
V+8V_A_AV_SC1
R4607 0 1/10W
L4603 BTX1042- -T XD, 0XD, 0XA, ZD, 0ZD
V+8V_A_AV_SC23
L4604 BTX1042- -T XD, 0XD, 0XA, ZD, 0ZD
for EU
from BOARD_IF_0 [DT_MON_V_HDDTB 1-C3
from EMMA2 (for EU) [DT_MON_V_EMMA 21-B6
TP4612
from EMMA2 [EMMA_DA_GY 7-D3, 21-B5
C4608 YB 1.0/10
R4646 SS 100
from RGB_SW [RGB_SW[0:100] 1-D2, 7-A2
RGB_SW[0:100]
EU / IBD, CHN
OPEN / INPUT1_SY
OPEN / INPUT1_SPLUG
INPUT1_V
C4650 CH SS 220P/50
NO USE
GND
from BOARD_IF_0 [AV_SW[0:100] 1-D3, 7-C2, 12-A6
AV_SW[0:100]
SIDE_SC SIDE_S2 SIDE_SY
for EU
V+8V_A_AV_SC1
XD, 0XD, 0XA, ZD, 0ZD
C4638 YB 1.0/10
Q4604 2SD2114K(UV)-TLB
R4667 SS 22K
R4648 SS 220
C4612 10/10 DCH1201- -T
R4675 470
R4666 470
R4668 SS 33K
GND
V+8V_A_AV_SC23
XD, 0XD, 0XA, ZD, 0ZD
Q4605 2SD2114K(UV)-TLB
R4670 SS 22K
R4641 SS 220
C4616 10/10 DCH1201- -T
R4676 470
R4669 470
R4671 SS 33K
GND
XD, 0XD, 0XA, ZD, 0ZD
C4639 YB 1.0/10
Q4607 2SD2114K(UV)-TLB
R4673 SS 22K
R4631 SS 220
C4626 10/10 DCH1201- -T
R4677 470
R4672 470
R4674 SS 33K
GND
V+5V_A_AV
C4601 10/10 DCH1201- -T
D4601 UDZS6R8(B)-TRB
EU / IBD, CHN
OPEN
OPEN / INPUT1_SC
SCART1_OUT_V / MON_OUT_V
SCART2_OUT_V / OPEN
SCART3_OUT_V / OPEN
INPUT2_VSY / INPUT2_V
OPEN / INPUT2_SY
OPEN
INPUT2_SC
INPUT3_VSY / INPUT3_V
OPEN / INPUT3_SY
OPEN
INPUT3_SC
OPEN / INPUT2_SPLUG
R4608 SS 0 XG, XC, ZG
R4610 SS 0 XG, XC, ZG
R4637 SS 0 XG, XC, ZG
70 72 74 97 79 81 83 85 89 91 95
XG, XC, ZG C4614 YB SS 0.01/16 ST R4611 SS 100
R4622 SS 0 XG, XC, ZG
C4615 YB 1.0/10
R4612 SS 220K
C4602 YB SS 0.1/10
R4613 SS 100
XD, 0XD, 0XA, ZD, 0ZD R4624 SS 100
R4633 SS 100 XG, XC, ZG
C4624 YB SS 0.01/16
R4636 SS 100
XD, 0XD, 0XA, ZD, 0ZD
R4638 SS 100
C4606 DCH1201- -T 10/10
XD, 0XD, 0XA, ZD, 0ZD R4639 SS 100
R4642 SS 100 XG, XC, ZG
C4625 YB SS 0.01/16
R4640 SS 100
XD, 0XD, 0XA, ZD, 0ZD
XG, XC, ZG R4644 SS 100
C4627 YB 1.0/10
R4645 SS 100
TP4611
TP4605
from RGB_SW [COMP_Y 7-C5
XG, XC, ZG R4602 SS 100
R4603 SS 100 XG, XC, ZG
R4601 SS 220K
C4613 YB 1.0/10
R4604 SS 100
R4605 SS 100
R4609 SS 100
R4616 SS 100
81 72 64 63 62
75 74 73 72 71 70 69 68 67 66 65 64 63 62
FBC_Y_OUT3 Y_IN3 S3 CVBS_IN3 CVBS3 C_IN2 C2_DC Y_IN2 S2 CVBS_IN2 CVBS2 C_IN C1_DC Y_IN1
76 77 78 C3_DC C_IN3 FBC_CVBS_OUT3
79 CVBS_OUT3
80 DRIVER_VCC
81 Y_OUT3
82 DC_OUT
83 C_OUT3
84 DRIVER_GND
85 CVBS_IN4
86 CVBS4
87 Y_IN4
88 C4_DC
89 C_IN4
90 INPUT_GND
91 CVBS_IN5
92 BG
93 Y_IN5
94 C5_DC
95 C_IN5
96 CVBS5/P_EXP2
97 COMP_Y_IN1
98 S5/P_EXP4 COMP_Y_IN2
99 P_EXP1
100
L1_IN R1_IN L10_IN R10_IN L2_IN R2_IN L3_IN R3_IN AU_I_GND L4_IN R4_IN P_EXP3 L5_IN R5_IN
1 2 3 4 5 6 7 8 9 10 11 12 13 14
IC4601 R2S11006FT-
AVSW
C4607


SCL_AV5
7-D4,12-B1,13-B3
21-B6
SDA_AV5
7-D4,12-B1,13-B3
21-B6
N_V_HDDTB
ON_V_EMMA
R4623 SS 100 XG,XC,ZG
C4619 YB 1.0/10 XG,XC,ZG
NO USE
SIDE_SC
SIDE_S2
SIDE_SY
SIDE_V
A_TUNER_V
OPEN / INPUT3_SPLUG
SIDE_SPLUG
95
64 63 62 60 57 54
R4605 R4609 R4616 R4617 R4618 R4619 R4620 R4621
C4605 C4603 C4604 C4618
R4615 XG,XC,ZG
CVBS2 C_IN C1_DC V_IN1 INPUT_VCC CVBS_IN1 CVBS_IN1_DET Y_IN1_DET CVBS_IN6 S4 CVBS_IN7 S1 CVBS1 SCLK SDATA
FBC_Y_OUT1
CVBS/Y_OUT1
OUT1_VCC
C_OUT1
OUT1_GND
CVBS/Y_OUT2
OUT2_VCC
FBC_Y_OUT2
C_OUT2
OUT2_GND
CVBS_OUT4
FBC_CVBS_OUT4
CVBS_OUT5
FBC_CVBS_OUT5
R1_OUT L1_OUT R2_OUT L2_OUT R3_OUT L3_OUT
AU_O_VCC
R4_OUT L4_OUT
R9_IN
NC
L9_IN
R4_IN P_EXP3 L5_IN R5_IN AU_1/2_VCC L6_IN R6_IN AU_I_VCC L7_IN R7_IN ADAC L8_IN R8_IN AU_O_GND
IC4601
2S11006FT-K
AVSW
R4625 220K C4620 1.0/10
R4632 220K C4621 1.0/10
R4635 220K C4628 1.0/10
R4647 220K C4629 1.0/10
R4626 100
R4630 100
R4634 100
TP4608 TP4609 TP4610
φ1.0 Aside
TP4613
1Vp-p
VBI_Y
15-C2
to VBI_SLICER
(for EU only)
V+8V_A_AV
C4607 YB SSH 0.1/10
C4609 10/16 DCH1165 -T
GND
C4610 0.1/10
R4614 1.5K
R4627 39K
HN1C01FU(YGR)-T Q4601
C4630 7P/50
Q4601 HN1C01FU(YGR)-T
R4629 680
R4628 680
L4601 LCYA220J2520-T 22U
2SC4081(QR)-TLB Q4603
R4643 100
TP4603
SUB_Y 8-D3
R4661 ST 100 NO USE
R4649 680
R4650 15K
C4636
DCH1201 -T 10/10
R4651 2.7K
C4631 39P/50
C4632 47P/50
R4659 680
R4660 680
TP4606 φ1.0 Aside
C4611 0.1/10
R4652 1.5K
R4653 39K
HN1C01FU(YGR)-T Q4602
C4633 7P/50
Q4602 HN1C01FU(YGR)-T
R4655 680
R4654 680
L4602 LCYA220J2520-T 22U
2SC4081(QR)-TLB Q4606
TP4604
R4662 100
SUB_C 8-D3
R4665 ST 100 NO USE
R4656 680
R4657 15K
C4637
DCH1201 -T 10/10
R4658 2.7K
C4634 39P/50
C4635 47P/50
R4663 680
R4664 680
TP4607 φ1.0 Aside
TP4601
MAIN_Y 8-C1
TP4602
MAIN_C 8-C1
to VDEC

MAIN ASS'Y (EU/IBD/CHN) (06/22)
AV_SW BLOCK

AWV2523- : AWV2524- :
AWV2463- : AWV2465- :
AWV2466- : AWV2467-

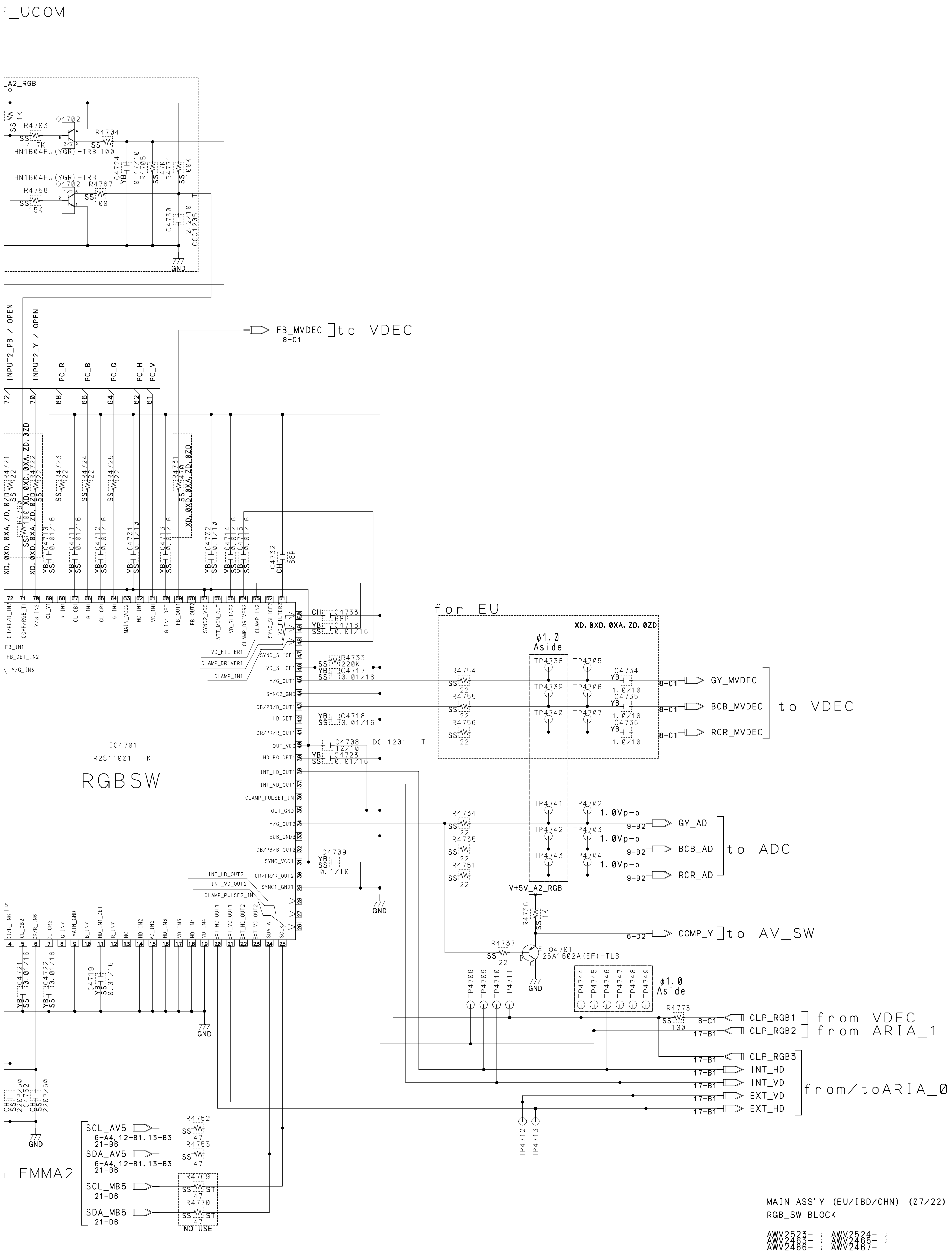
9.7 MAIN ASSY (7/20) [RGB SW BLOCK]



A
B
C
D
E
F
from BOARD_IF_0 RGB_SW[0:100]
1-D2, 6-B2
IF_UCOM[0:100] to IF_UCO
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
4-C5, 5-B3, 5-D1
10-A6, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
IF_UCOM[0:100]
V+5V_A2
V+5V_A2_RGB
R4748
0
1/10W
C4729
UDZS6R8(B)-TRB
D4710
NO USE
GND
JA4701 Pin
R G B NC GND
GND GND GND +5V GND
NC SDA HD VD SCL
D4704
1SS301-TLB
TP4720
IC4703
BR24L01AFJ-W-TBB
A0 A1 A2 GND VCC WP SCL SDA
4.6V
R4762
47K
Q4705
SSM6N17FU-T
R4750
100
NO USE
29 TXD
30 RXD
79 WP_PC
21 DSUB_DET
Q4704
RT1N241M-TLB
V+3_3V_UCOM
C4746
C4745
DCH1201-
TP4723 PC_G
TP4724 PC_B
TP4725 PC_R
TP4728
TP4727
TP4731
TP4716
TP4718
TP4729
TP4730
TP4732
TP4733
CN4701
AKP1214-
PC_IN
R4761
100
R4766
100
61 PC_V
62 PC_H
RGB_SW[0:100]
D4705 D4706 D4707 D4708
UDZS5R6(B)-TRB
C4743 C4744
22P
NO USE
R4764
2.2K
C4748
IC4702
TC74VHC08FTS1-TBB
0.0V
PC_G
PC_B
PC_R
C4728 C4727 C4726
1.0/10
64 PC_G
66 PC_B
68 PC_R
R4717 R4718 R4716
75
for EU
XD, 0XD, 0XA, ZD, 0ZD
HN1C01FU(YGR)-T
Q4706
Q4703
R4710 10K
R4708 1K
R4709 4.7K
R4711 100
HN1B04FU(YGR)-TRB
R4712
R4713 47K
R4772 100K
C4725 0.47/10
R4759 15K
R4768 100
C4731 2.2/10
NO USE
EU / IBD, CHN
RAPID_SW1 / OPEN 76
INPUT1_G / INPUT2_Y 78
OPEN / INPUT1_PLUG 76
INPUT1_B / INPUT2_Pb 80
OPEN / INPUT2_PLUG 81
INPUT1_R / INPUT2_Pr 82
RAPID_SW3 / OPEN 81
INPUT3_G / INPUT1_Y 86
INPUT3_B / INPUT1_Pb 88
INPUT3_R / INPUT1_Pr 90
R4763 100
R4726 470
R4765 100
R4727 R4728 R4729 100
XG, XC, ZG
R4714 100
R4715 100
R4730 470
R4742 R4743 R4744 100
C4703 0.1/10
C4704 10/10
DCH1201-
for EU
V+5V_A2_RGB
XD, 0XD, 0XA, ZD, 0ZD
HN1C01FU(YGR)-T
Q4706
R4701 10K
R4702 1K
R4703 4.7K
R4707 10K
R4758 15K
HN1B04FU
NO USE
EU / IBD, CHN
INPUT2_PR / OPEN 74
INPUT2_PB / OPEN 72
INPUT2_Y / OPEN 70
D4709
UDZS6R8(B)-TRB
R4719 R4720 R4721 R4760 R4722
22
C4710
FB_DET_IN1
FB_IN1
FB_DET_IN2
COMP/RGB_T3
CB/PB/B_IN3
Y/G_IN3
COMP/RGB_T4
CR/PR/R_IN3
DC1
FB_IN2
DC2
Y/G_IN4
INPUT_VCC
CB/PB/B_IN4
VREF
CR/PR/R_IN4
INPUT_GND
FB_IN3
DC3
Y_IN5
DC4
CB_IN5
DC5
CR_IN5
DC6
COMP_T5
SUB_GND1
Y/G_IN6
CB/B_IN6
CR/R_IN6
CL_Y2
CL_CB2
CL_CR2
from BOARD_IF_0 AV_SW[0:100]
1-D3, 6-B2, 12-A6
AV_SW[0:100]
for EU
95 SLOW_SW1 / OPEN
97 SLOW_SW2 / OPEN
99 SLOW_SW3 / OPEN
98 IN2_CompY_PLUG / OPEN
R4738 3.3K
R4739 3.3K
R4740 3.3K
R4741 100
XD, 0XD, 0XA, ZD, 0ZD
D4711 D4712 D4713
UDZS12(B)-TRB
D4701 D4702 D4703
UDZS4R7(B)-TRB
R4745 R4746 R4747 3.3K
C4705 C4706 C4707 0.1/10
C4720 C4721 C4722 0.01/16
EMMA_DA_GY 6-B3, 21-B5
EMMA_DA_BCB 21-B5
EMMA_DA_RCR 21-B5
from EMMA2
TP4701
TP4714
TP4715
C4740 C4741 C4742 1.0/10
R4749 100
C4750 C4751 C4752 220P/50
GND
from EMMA

	EU	IBD/CHN
R4727-R4729, R4742-R4744	RS1/16SS101J-T (100Ω 1/16W)	RS1/16SS220J-T (22Ω 1/16W)

ITEM	USED	VACANT	
		EU	IBD/CHN
		AWV2523-/AWV2524-/ AWV2463-/~~AWV2464-/~~ ~~AWV2522-~~	AWV2465-/AWV2466-/ AWV2467-
C	4701-4736, 4740-4746, 4748, 4750-4752	4743, 4744, 4746	4705-4707, 4724, 4725, 4730, 4731, 4743, 4744, 4746
CN	4701		
D	4701-4713	4705-4708, 4710-4713	4701-4703, 4705-4708 4710-4713
IC	4701-4703		
Q	4701-4706	4705	4702, 4703, 4705, 4706
R	4701-4705, 4707-4731, 4733-4756, 4758-4773	4707, 4712, 4714, 4715, 4750, 4769, 4770	4701-4705, 4707-4713, 4719-4722, 4726, 4730, 4731, 4738-4741, 4745-4747, 4750, 4758-4760, 4763, 4765, 4767-4772

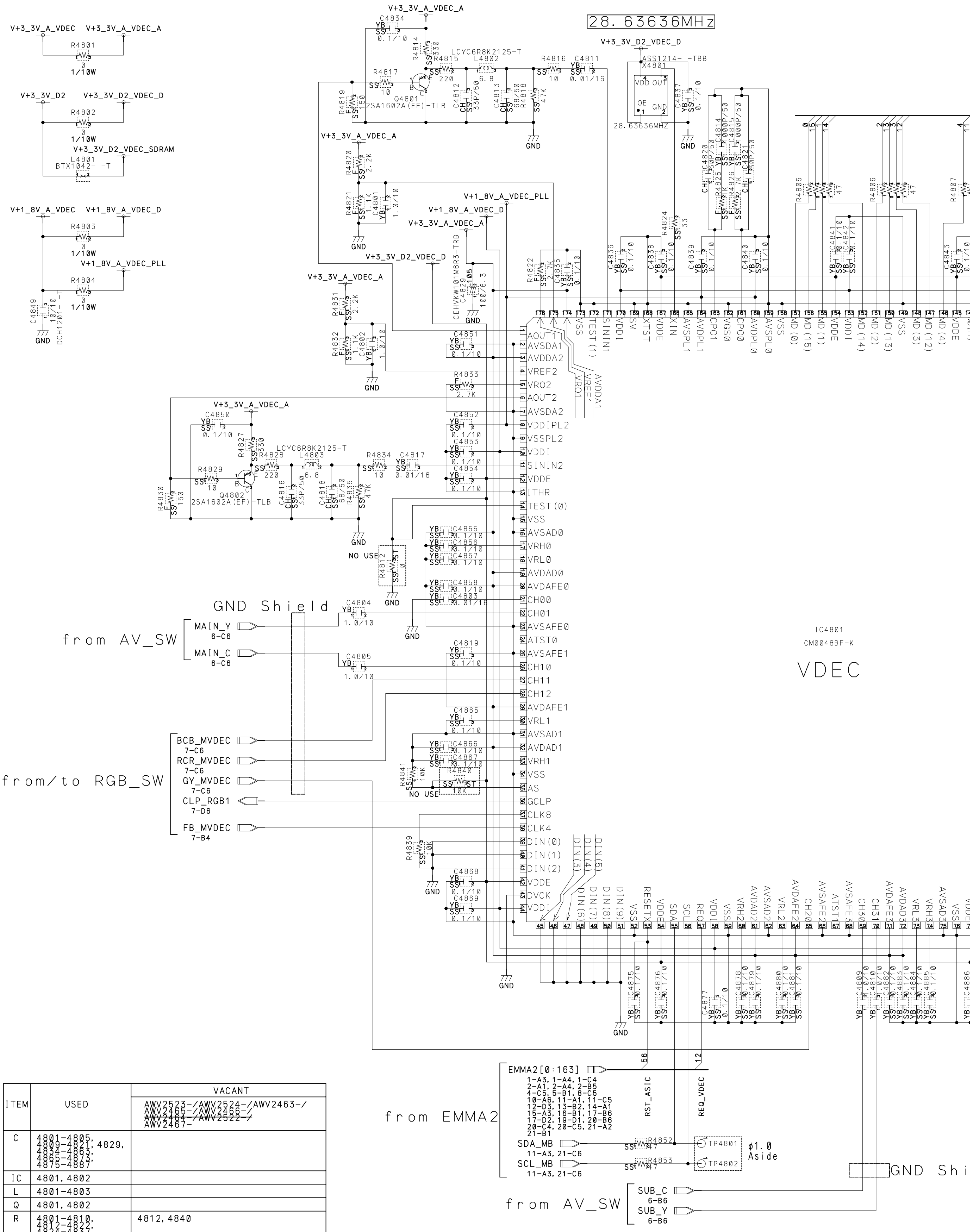


_UCOM
_A2_RGB
R4703 4.7K
Q4702 HN1B04FU(YGR)-TRB
R4704 100
C4724 0.47/10
R4705 47K
R4771 100K
R4758 15K
R4767 100
C4730 2.2/10 CCG1205- -T
GND
INPUT2_PB / OPEN
INPUT2_Y / OPEN
PC_R
PC_B
PC_G
PC_H
PC_V
FB_MVDEC 8-C1
to VDEC
XD, 0XD, 0XA, ZD, 0ZD
R4721 22
R4722 22
R4723 22
R4724 22
R4725 22
R4731 470
R4760 100
C4710 0.01/16
C4711 0.01/16
C4712 0.01/16
C4701 0.1/10
C4713 0.01/16
C4702 0.1/10
C4714 0.01/16
C4715 0.01/16
C4732 68P
C4733 68P
C4716 0.01/16
R4733 220K
C4717 0.01/16
C4718 0.01/16
C4708 10/10 DCH1201- -T
C4723 0.01/16
C4709 0.1/10
IC4701
R2S11001FT-K
RGBSW
FB_IN1
FB_DET_IN2
Y/G_IN3
VD_FILTER1
CLAMP_DRIVER1
CLAMP_IN1
INT_HD_OUT2
INT_VD_OUT2
CLAMP_PULSE2_IN
for EU
XD, 0XD, 0XA, ZD, 0ZD
φ1.0 Aside
R4754 22
R4755 22
R4756 22
C4734 1.0/10
C4735 1.0/10
C4736 1.0/10
TP4738 TP4739 TP4740 TP4705 TP4706 TP4707
GY_MVDEC 8-C1
BCB_MVDEC 8-C1
RCR_MVDEC 8-C1
to VDEC
R4734 22
R4735 22
R4751 22
TP4741 TP4742 TP4743 TP4702 TP4703 TP4704
1.0Vp-p
GY_AD 9-B2
BCB_AD 9-B2
RCR_AD 9-B2
to ADC
V+5V_A2_RGB
R4736 1K
COMP_Y 6-D2
to AV_SW
R4737 22
Q4701 2SA1602A(EF)-TLB
TP4708 TP4709 TP4710 TP4711
TP4744 TP4745 TP4746 TP4747 TP4748 TP4749
φ1.0 Aside
R4773 100
CLP_RGB1 8-C1
CLP_RGB2 17-B1
from VDEC
from ARIA_1
CLP_RGB3 17-B1
INT_HD 17-B1
INT_VD 17-B1
EXT_VD 17-B1
EXT_HD 17-B1
from/toARIA_0
TP4712 TP4713
C4721 0.01/16
C4722 0.01/16
C4719 0.01/16
C4752 220P/50
C4753 220P/50
SCL_AV5 6-A4, 12-B1, 13-B3 21-B6
SDA_AV5 6-A4, 12-B1, 13-B3 21-B6
SCL_MB5 21-D6
SDA_MB5 21-D6
R4752 47
R4753 47
R4769 47
R4770 47
NO USE
EMMA2

MAIN ASS'Y (EU/IBD/CHN) (07/22)
RGB_SW BLOCK

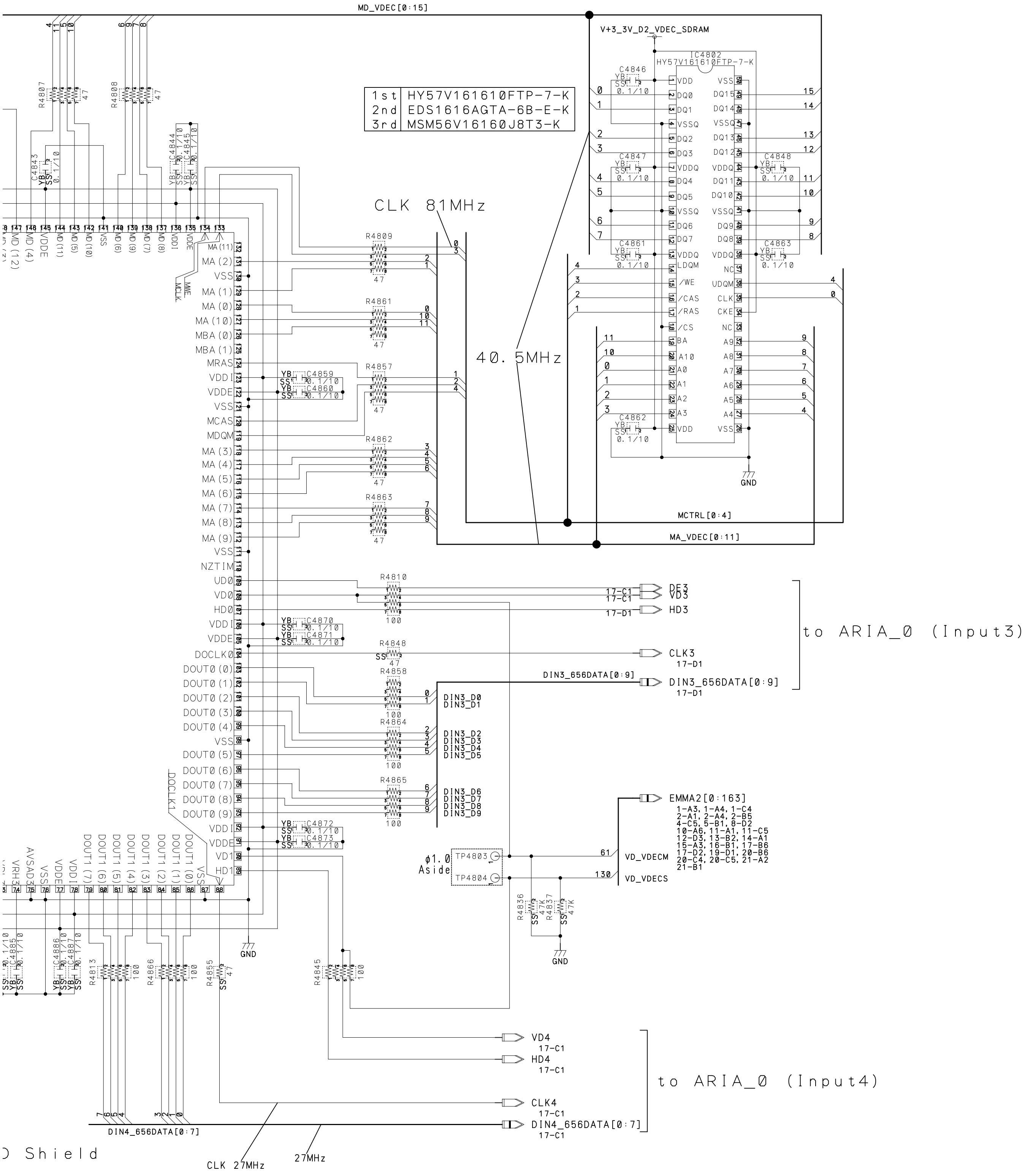
AWV2523- ; AWV2524- ;
AWV2465- ; AWV2465- ;
AWV2466- ; AWV2467-

9.8 MAIN ASSY (8/20) [VDEC BLOCK]



V+3_3V_A_VDEC
V+3_3V_A_VDEC_A
R4801
0
1/10W
V+3_3V_D2
V+3_3V_D2_VDEC_D
R4802
V+3_3V_D2_VDEC_SDRAM
L4801
BTX1042- -T
V+1_8V_A_VDEC
V+1_8V_A_VDEC_D
R4803
V+1_8V_A_VDEC_PLL
R4804
C4849
10/10
DCH1201- -T
GND
C4834
0.1/10
R4814
330
LCYC6R8K2125-T
R4815
220
L4802
6.8
R4817
10
Q4801
2SA1602A(EF)-TLB
R4819
150
C4812
33P/50
C4813
68/50
R4818
47K
R4816
10
C4811
0.01/16
28.63636MHz
ASS1214- -TBB
X4801
VDD OUT
OE
GND
28.63636MHZ
C4837
0.1/10
R4820
2.2K
R4821
1.1K
C4801
1.0/10
V+1_8V_A_VDEC_PLL
V+1_8V_A_VDEC_D
V+3_3V_A_VDEC_A
V+3_3V_D2_VDEC_D
CEHVKW101M6R3-TRB
C4829
100/6.3
R4822
2.7K
C4835
0.1/10
C4820
330P/50
R4825
15K
C4814
100P/50
R4826
2.7K
C4815
100P/50
C4821
330P/50
R4824
33
C4836
C4838
C4839
C4840
C4841
C4842
C4843
R4805
47
R4806
47
R4807
R4831
2.2K
R4832
1.1K
C4802
1.0/10
C4851
R4833
2.7K
C4850
R4827
330
R4828
220
L4803
6.8
R4834
10
C4817
0.01/16
R4829
10
Q4802
2SA1602A(EF)-TLB
R4830
150
C4816
33P/50
C4818
68/50
R4835
47K
C4852
C4853
C4854
C4855
C4856
C4857
C4858
C4803
0.01/16
NO USE
R4812
ST
0
GND Shield
from AV_SW
MAIN_Y
6-C6
MAIN_C
6-C6
C4804
1.0/10
C4805
1.0/10
C4819
C4865
C4866
C4867
R4840
10K
R4841
10K
NO USE
from/to RGB_SW
BCB_MVDEC
7-C6
RCR_MVDEC
7-C6
GY_MVDEC
7-C6
CLP_RGB1
7-D6
FB_MVDEC
7-B4
R4839
10K
C4868
C4869
IC4801
CM0048BF-K
VDEC
1 AOUT1
2 AVSDA1
3 AVDDA2
4 VREF2
5 VRO2
6 AOUT2
7 AVSDA2
8 VDDIPL2
9 VSSPL2
10 VDDI
11 SININ2
12 VDDE
13 ITHR
14 TEST(0)
15 VSS
16 AVSAD0
17 VRH0
18 VRL0
19 AVDAD0
20 AVDAFE0
21 CH00
22 CH01
23 AVSAFE0
24 ATST0
25 AVSAFE1
26 CH10
27 CH11
28 CH12
29 AVDAFE1
30 VRL1
31 AVSAD1
32 AVDAD1
33 VRH1
34 VSS
35 AS
36 GCLP
37 CLK8
38 CLK4
39 DIN(0)
40 DIN(1)
41 DIN(2)
42 VDDE
43 DVCK
44 VDDI
45 DIN(3)
46 DIN(4)
47 DIN(5)
48 DIN(6)
49 DIN(7)
50 DIN(8)
51 DIN(9)
52 VSS
53 RESETX
54 VDDE
55 SDA
56 SCL
57 REQ
58 VDDI
59 VSS
60 VRH2
61 AVDAD2
62 AVSAD2
63 VRL2
64 AVDAFE2
65 CH20
66 AVSAFE2
67 ATST1
68 AVSAFE3
69 CH30
70 CH31
71 AVDAFE3
72 AVDAD3
73 VRL3
74 VRH3
75 AVSAD3
76 VSS
145 VDDE
146 MD(4)
147 MD(12)
148 MD(3)
149 VSS
150 MD(13)
151 MD(2)
152 MD(14)
153 VDDI
154 VDDE
155 MD(1)
156 MD(15)
157 MD(0)
158 VSS
159 AVSPL0
160 AVDPL0
161 CPO0
162 VGS0
163 CPO1
164 AVDPL1
165 AVSPL1
166 XIN
167 VDDE
168 XTST
169 SM
170 VDDI
171 SININ1
172 TEST(1)
173 VSS
174 VRO1
175 VREF1
176 AVDDA1
C4875
C4876
C4877
C4878
C4879
C4880
C4881
C4809
1.0/10
C4810
1.0/10
C4882
C4883
C4884
C4885
C4886
0.1/10
YB
SS
CH
F
from EMMA2
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
10-A6, 11-A1, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
56
12
RST_ASIC
REQ_VDEC
SDA_MB
11-A3, 21-C6
SCL_MB
11-A3, 21-C6
R4852
47
R4853
47
TP4801
TP4802
ϕ1.0
Aside
GND Shi
from AV_SW
SUB_C
6-B6
SUB_Y
6-B6

ITEM	USED	VACANT
		AWV2523-/AWV2524-/AWV2463-/ AWV2465-/AWV2466-/ AWV2464-/AWV2522-/ AWV2467-
C	4801-4805, 4809-4821, 4829, 4834-4863, 4865-4873, 4875-4887	
IC	4801, 4802	
L	4801-4803	
Q	4801, 4802	
R	4801-4810, 4812-4822, 4824-4837, 4839-4841, 4845, 4848, 4852-4853, 4855, 4857, 4858, 4861-4866	4812, 4840
X	4801	

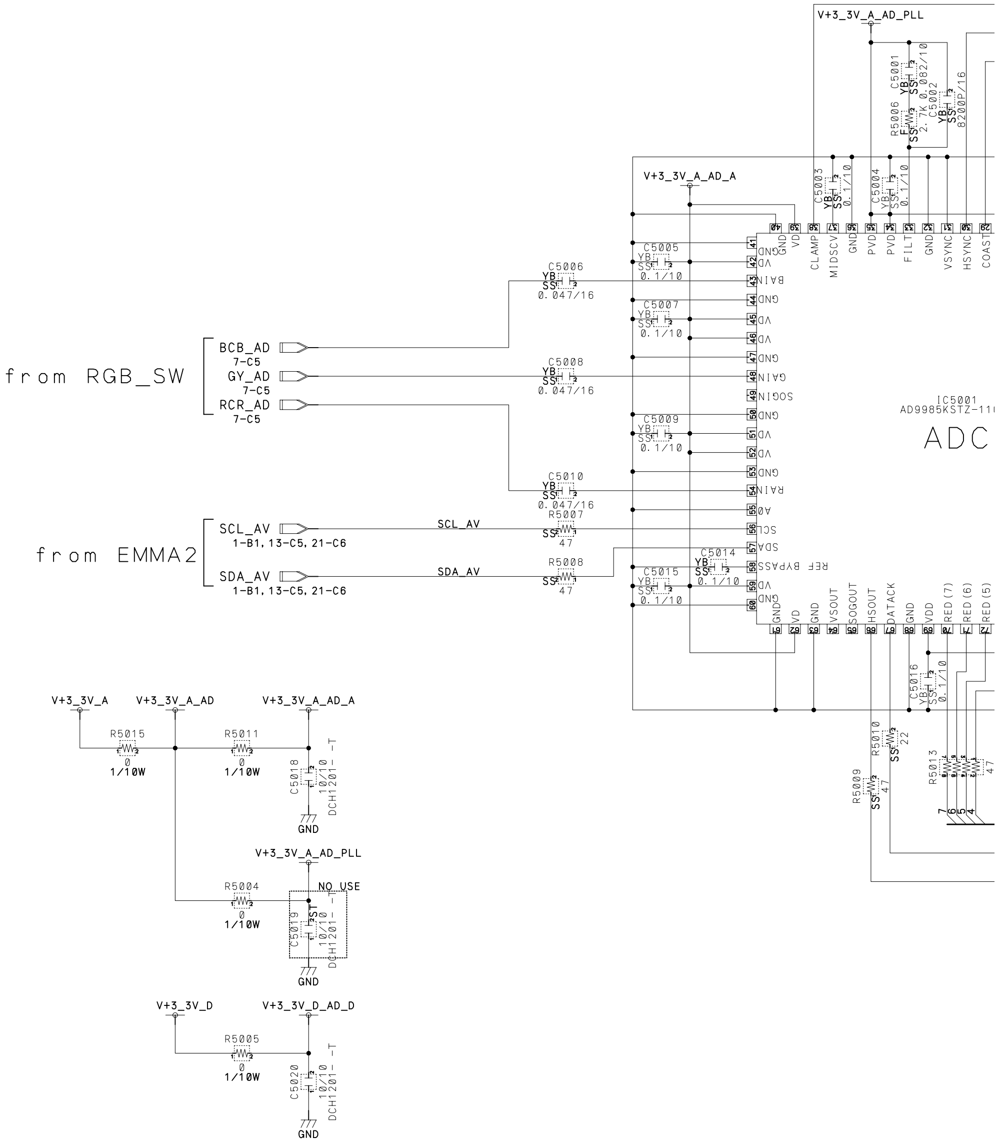

MD_VDEC[0:15]
V+3_3V_D2_VDEC_SDRAM
IC4802
HY57V161610FTP-7-K
1st HY57V161610FTP-7-K
2nd EDS1616AGTA-6B-E-K
3rd MSM56V16160J8T3-K
C4846
C4847
C4848
C4861
C4862
C4863
0.1/10
VDD
DQ0
DQ1
VSSQ
DQ2
DQ3
VDDQ
DQ4
DQ5
VSSQ
DQ6
DQ7
VDDQ
LDQM
/WE
/CAS
/RAS
/CS
BA
A10
A0
A1
A2
A3
VDD
VSS
DQ15
DQ14
VSSQ
DQ13
DQ12
VDDQ
DQ11
DQ10
VSSQ
DQ9
DQ8
VDDQ
NC
UDQM
CLK
CKE
NC
A9
A8
A7
A6
A5
A4
VSS
GND
MCTRL[0:4]
MA_VDEC[0:11]
CLK 81MHz
40. 5MHz
R4807
R4808
R4809
R4861
R4857
R4862
R4863
R4810
R4848
R4858
R4864
R4865
R4813
R4866
R4855
R4845
R4836
R4837
47
100
4.7K
C4843
C4844
C4845
C4859
C4860
C4870
C4871
C4872
C4873
C4885
C4886
C4887
MA(11)
MA(2)
VSS
MA(1)
MA(0)
MA(10)
MBA(0)
MBA(1)
MRAS
VDDI
VDDE
MCAS
MDQM
MA(3)
MA(4)
MA(5)
MA(6)
MA(7)
MA(8)
MA(9)
NZTIM
UD0
VD0
HD0
DOCLK0
DOUT0(0)
DOUT0(1)
DOUT0(2)
DOUT0(3)
DOUT0(4)
DOUT0(5)
DOUT0(6)
DOUT0(7)
DOUT0(8)
DOUT0(9)
VD1
HD1
DOCLK1
MCLK
MWE
AVSAD3
VRH3
DOUT1(7)
DOUT1(6)
DOUT1(5)
DOUT1(4)
DOUT1(3)
DOUT1(2)
DOUT1(1)
DOUT1(0)
DE3
VD3
HD3
CLK3
DIN3_656DATA[0:9]
17-C1
17-D1
DIN3_D0
DIN3_D1
DIN3_D2
DIN3_D3
DIN3_D4
DIN3_D5
DIN3_D6
DIN3_D7
DIN3_D8
DIN3_D9
to ARIA_0 (Input3)
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-D2
10-A6, 11-A1, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
TP4803
TP4804
ϕ1.0
Aside
61
130
VD_VDECM
VD_VDECS
VD4
HD4
CLK4
DIN4_656DATA[0:7]
to ARIA_0 (Input4)
CLK 27MHz
27MHz
) Shield

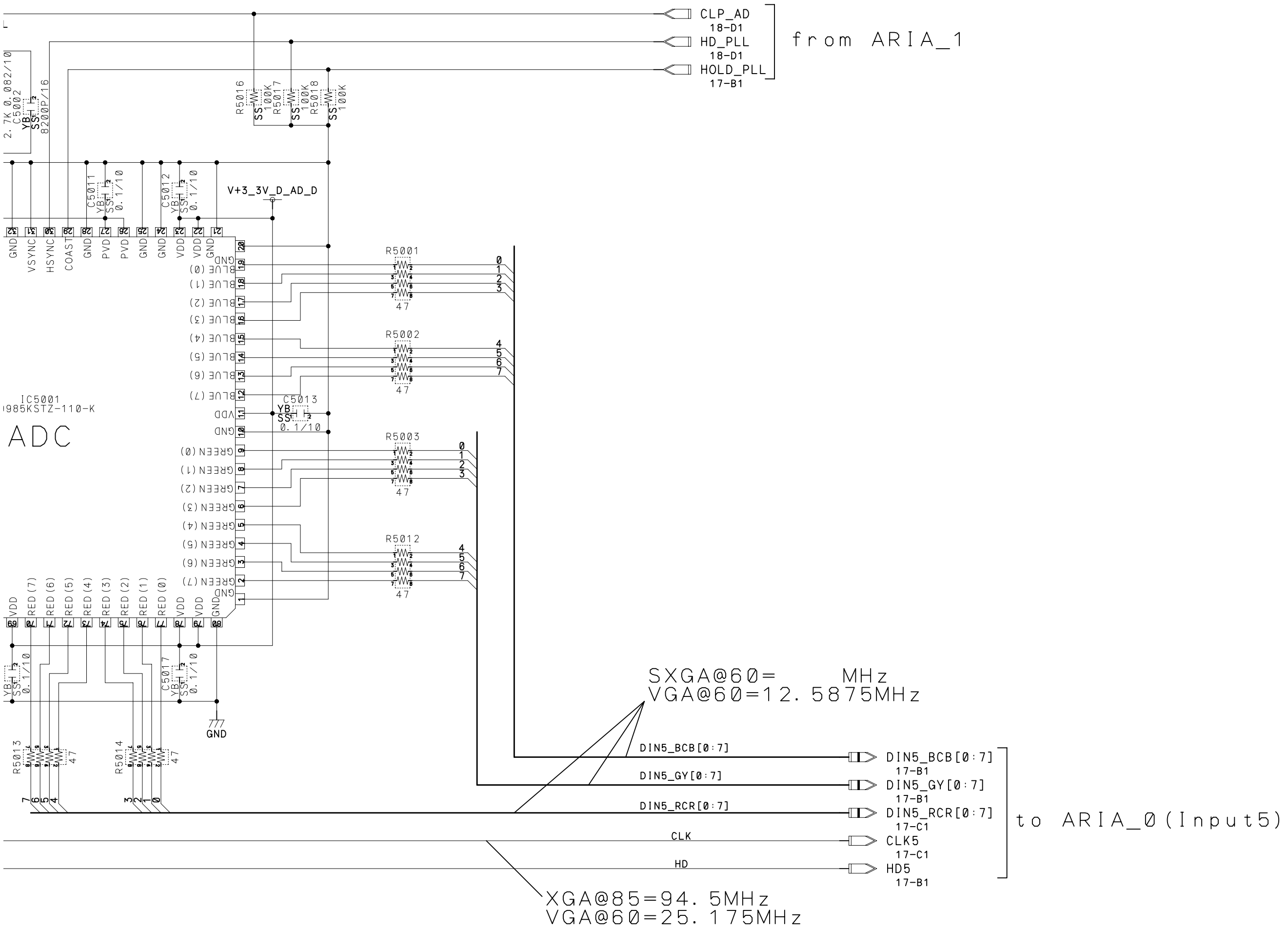
MAIN ASS'Y (EU/IBD/CHN) (08/22)
VDEC BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

9.9 MAIN ASSY (9/20) [ADC BLOCK]

ITEM	USED	VACANT
		AWV2523-/AWV2524-/AWV2463-/ AWV2465-/AWV2466-/ ~~AWV2464-/AWV2522-/~~ AWV2467-
C	5001-5020	5019
IC	5001	
R	5001-5018	

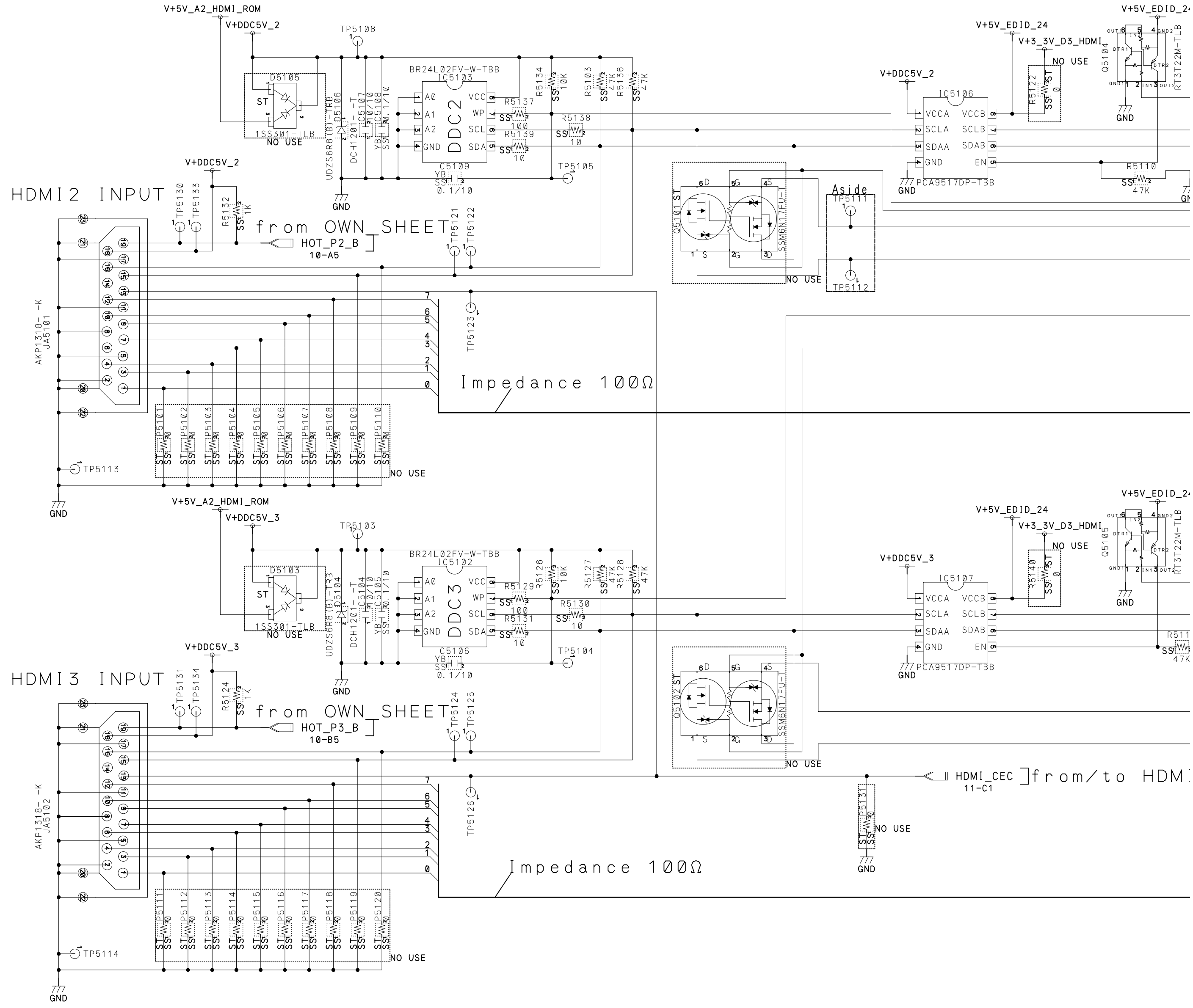

V+3_3V_A_AD_PLL
R5006
F SS 2.7K
C5001
YB SS 0.082/10
C5002
YB SS 8200P/16
V+3_3V_A_AD_A
C5003
YB SS 0.1/10
C5004
YB SS 0.1/10
40 GND
39 VD
38 CLAMP
37 MIDSCV
36 GND
35 PVD
34 PVD
33 FILT
32 GND
31 VSYNC
30 HSYNC
29 COAST
41 GND
42 VD
43 BAIN
44 GND
45 VD
46 VD
47 GND
48 GAIN
49 SOGIN
50 GND
51 VD
52 VD
53 GND
54 RAIN
55 A0
56 SCL
57 SDA
58 REF BYPASS
59 VD
60 GND
61 GND
62 VD
63 GND
64 VSOUT
65 SOGOUT
66 HSOUT
67 DATACK
68 GND
69 VDD
70 RED(7)
71 RED(6)
72 RED(5)
C5005
YB SS 0.1/10
C5006
YB SS 0.047/16
C5007
YB SS 0.1/10
C5008
YB SS 0.047/16
C5009
YB SS 0.1/10
C5010
YB SS 0.047/16
R5007
SS 47
R5008
SS 47
C5014
YB SS 0.1/10
C5015
YB SS 0.1/10
C5016
YB SS 0.1/10
IC5001
AD9985KSTZ-11
ADC
from RGB_SW
BCB_AD
7-C5
GY_AD
7-C5
RCR_AD
7-C5
from EMMA2
SCL_AV
1-B1, 13-C5, 21-C6
SDA_AV
1-B1, 13-C5, 21-C6
SCL_AV
SDA_AV
R5009
SS 47
R5010
SS 22
R5013
47
7
6
5
4
V+3_3V_A
V+3_3V_A_AD
V+3_3V_A_AD_A
R5015
0
1/10W
R5011
0
1/10W
C5018
10/10
DCH1201- -T
GND
V+3_3V_A_AD_PLL
R5004
0
1/10W
NO USE
C5019
ST
10/10
DCH1201- -T
GND
V+3_3V_D
V+3_3V_D_AD_D
R5005
0
1/10W
C5020
10/10
DCH1201- -T
GND


CLP_AD
18-D1
HD_PLL
18-D1
HOLD_PLL
17-B1
from ARIA_1
R5016 SS 100K
R5017 SS 100K
R5018 SS 100K
2.7K 0.082/10
C5002 YB SS 8200P/16
C5011 YB SS 0.1/10
C5012 YB SS 0.1/10
V+3_3V_D_AD_D
32 GND
31 VSYNC
30 HSYNC
29 COAST
28 GND
27 PVD
26 PVD
25 GND
24 GND
23 VDD
22 VDD
21 GND
20 GND
19 BLUE (0)
18 BLUE (1)
17 BLUE (2)
16 BLUE (3)
15 BLUE (4)
14 BLUE (5)
13 BLUE (6)
12 BLUE (7)
11 VDD
10 GND
9 GREEN (0)
8 GREEN (1)
7 GREEN (2)
6 GREEN (3)
5 GREEN (4)
4 GREEN (5)
3 GREEN (6)
2 GREEN (7)
1 GND
IC5001
985KSTZ-110-K
ADC
C5013 YB SS 0.1/10
R5001 47
R5002 47
R5003 47
R5012 47
0 1 2 3 4 5 6 7
VDD RED (7) RED (6) RED (5) RED (4) RED (3) RED (2) RED (1) RED (0) VDD VDD GND
YB SS 0.1/10
C5017 YB SS 0.1/10
GND
R5013 47
R5014 47
7 6 5 4 3 2 1 0
SXGA@60= MHz
VGA@60=12.5875MHz
DIN5_BCB[0:7]
DIN5_GY[0:7]
DIN5_RCR[0:7]
CLK
HD
DIN5_BCB[0:7]
17-B1
DIN5_GY[0:7]
17-B1
DIN5_RCR[0:7]
17-C1
CLK5
17-C1
HD5
17-B1
to ARIA_0(Input5)
XGA@85=94.5MHz
VGA@60=25.175MHz

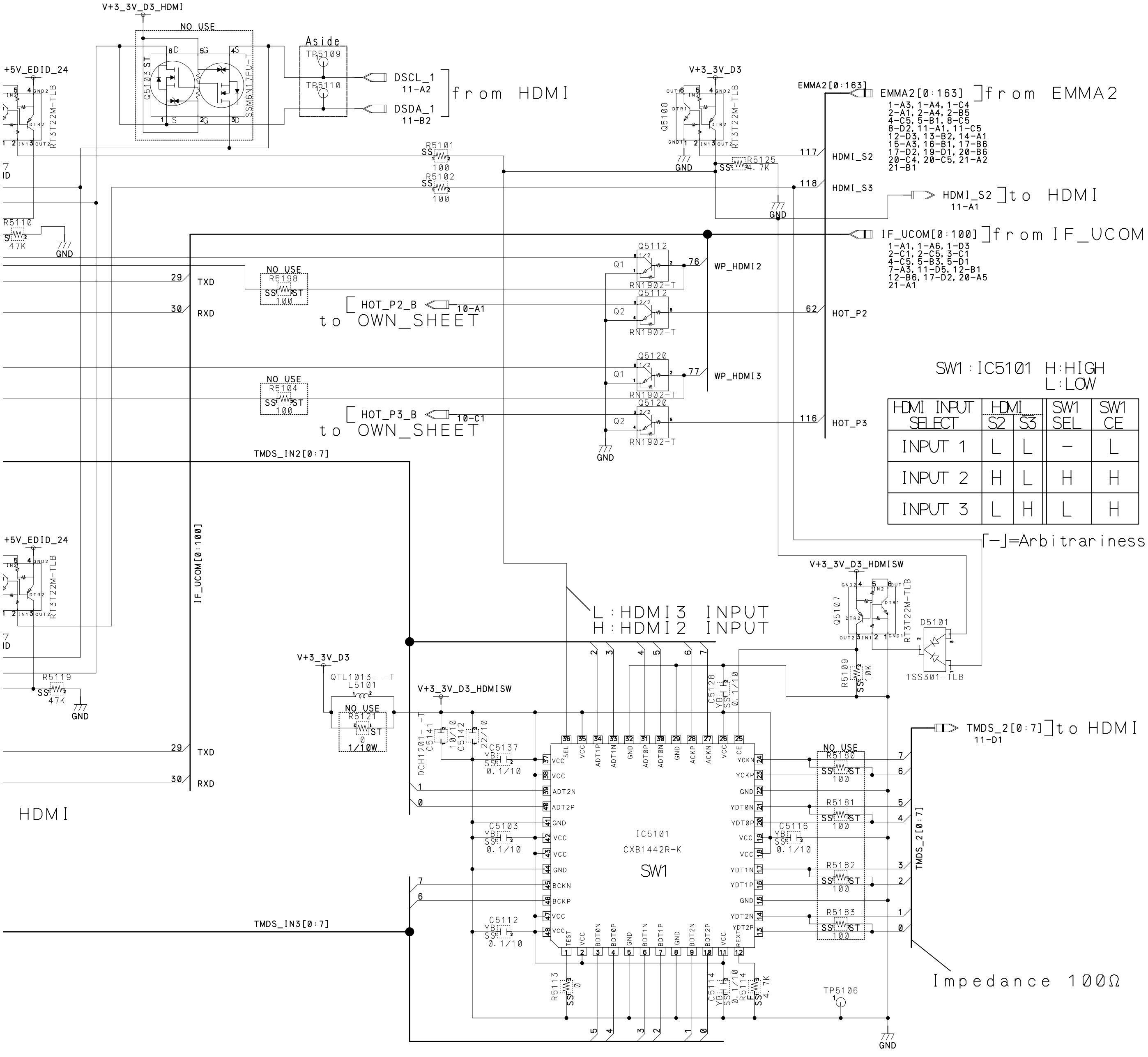
MAIN ASS'Y (EU/IBD/CHN) (09/22)
ADC BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

9.10 MAIN ASSY (10/20) [HDMI SW BLOCK]


A
B
C
D
E
F
HDMI2 INPUT
HDMI3 INPUT
V+5V_A2_HDMI_ROM
V+DDC5V_2
V+DDC5V_3
TP5108
TP5103
BR24L02FV-W-TBB
IC5103
IC5102
DDC2
DDC3
A0
A1
A2
GND
VCC
WP
SCL
SDA
D5105
D5103
1SS301-TLB
NO USE
UDZS6R8(B)-TR8
D5106
D5104
DCH1201-T
C5107
C5108
C5104
C5105
C5109
C5106
0.1/10
R5134
R5137
R5138
R5139
R5103
R5136
R5126
R5129
R5130
R5131
R5127
R5128
10K
47K
100
10
TP5105
TP5104
TP5130
TP5133
TP5131
TP5134
R5132
R5124
1K
from OWN_SHEET
HOT_P2_B
10-A5
HOT_P3_B
10-B5
TP5121
TP5122
TP5124
TP5125
TP5123
TP5126
AKP1318-K
JA5101
JA5102
Impedance 100Ω
P5101
P5102
P5103
P5104
P5105
P5106
P5107
P5108
P5109
P5110
P5111
P5112
P5113
P5114
P5115
P5116
P5117
P5118
P5119
P5120
TP5113
TP5114
GND
Q5101
Q5102
SSM6N17FU-T
NO USE
Aside
TP5111
TP5112
V+DDC5V_2
IC5106
IC5107
PCA9517DP-TBB
VCCA
SCLA
SDAA
VCCB
SCLB
SDAB
EN
V+5V_EDID_24
V+3_3V_D3_HDMI
R5122
R5140
Q5104
Q5105
RT3T22M-TLB
R5110
R5111
HDMI_CEC
11-C1
from/to HDM
P5131

ITEM	USED	VACANT
		AWV2523-/AWV2524-/AWV2463-/ AWV2465-/AWV2466-/ ~~AWV2464-/AWV2522-/~~ AWV2467-
C	5103-5109, 5112, 5114, 5116, 5128, 5137, 5141, 5142	
D	5101, 5103-5106	5103, 5105
IC	5101-5103, 5106, 5107	
JA	5101, 5102	
L	5101	
P	5101-5120, 5131	5101-5120, 5131
Q	5101-5105, 5107, 5108, 5112, 5120	5101-5103
R	5101-5104, 5109, 5110, 5113, 5114, 5119, 5121, 5122, 5124-5132, 5134, 5136-5140, 5180-5183, 5198	5104, 5121, 5122, 5140, 5180-5183, 5198


V+3_3V_D3_HDMI
NO USE
Q5103 ST
SSM6N17FU-T
Aside
TP5109
TP5110
DSCL_1
11-A2
DSDA_1
11-B2
]from HDMI
V+5V_EDID_24
RT3T22M-TLB
R5101
100
R5102
100
R5110
47K
GND
V+3_3V_D3
Q5108
R5125
4.7K
EMMA2[0:163]
]from EMMA2
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 11-A1, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
117 HDMI_S2
118 HDMI_S3
HDMI_S2]to HDMI
11-A1
IF_UCOM[0:100]]from IF_UCOM
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
4-C5, 5-B3, 5-D1
7-A3, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
29 TXD
30 RXD
R5198
R5104
Q5112
Q5120
RN1902-T
76 WP_HDMI2
77 WP_HDMI3
HOT_P2_B 10-A1
HOT_P3_B 10-C1
to OWN_SHEET
62 HOT_P2
116 HOT_P3
TMDS_IN2[0:7]
TMDS_IN3[0:7]
IF_UCOM[0:100]
SW1:IC5101 H:HIGH
L:LOW
[−]=Arbitrariness
V+3_3V_D3_HDMISW
Q5107
D5101
1SS301-TLB
R5109
10K
L:HDMI3 INPUT
H:HDMI2 INPUT
QTL1013- -T
L5101
R5121
0
1/10W
DCH1201- -T
C5141
C5142
10/10
22/10
C5137
C5103
C5112
C5128
C5116
C5114
0.1/10
IC5101
CXB1442R-K
SW1
SEL VCC ADT1P ADT1N GND ADT0P ADT0N GND ACKP ACKN VCC CE
VCC VCC ADT2N ADT2P GND VCC VCC GND BCKN BCKP VCC VCC
TEST VCC BDT0N BDT0P GND BDT1N BDT1P GND BDT2N BDT2P VCC REXT
YCKN YCKP GND YDT0N YDT0P VCC VCC YDT1N YDT1P GND YDT2N YDT2P
R5180
R5181
R5182
R5183
R5113
R5114
4.7K
TP5106
TMDS_2[0:7]]to HDMI
11-D1
HDMI
Impedance 100Ω

SW1:IC5101 H:HIGH
L:LOW

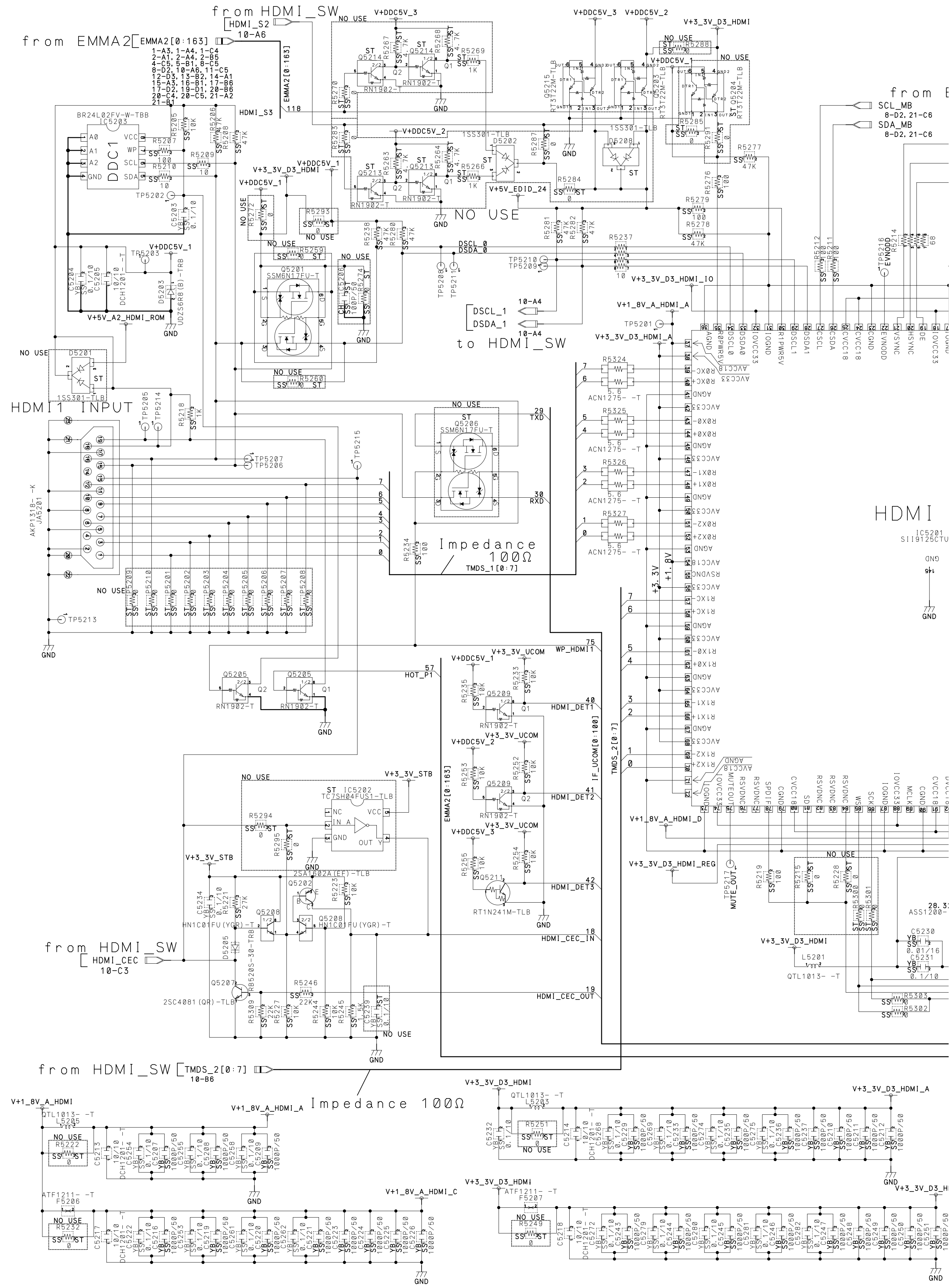
HDMI INPUT SELECT	HDMI_		SW1 SEL	SW1 CE
	S2	S3		
INPUT 1	L	L	−	L
INPUT 2	H	L	H	H
INPUT 3	L	H	L	H

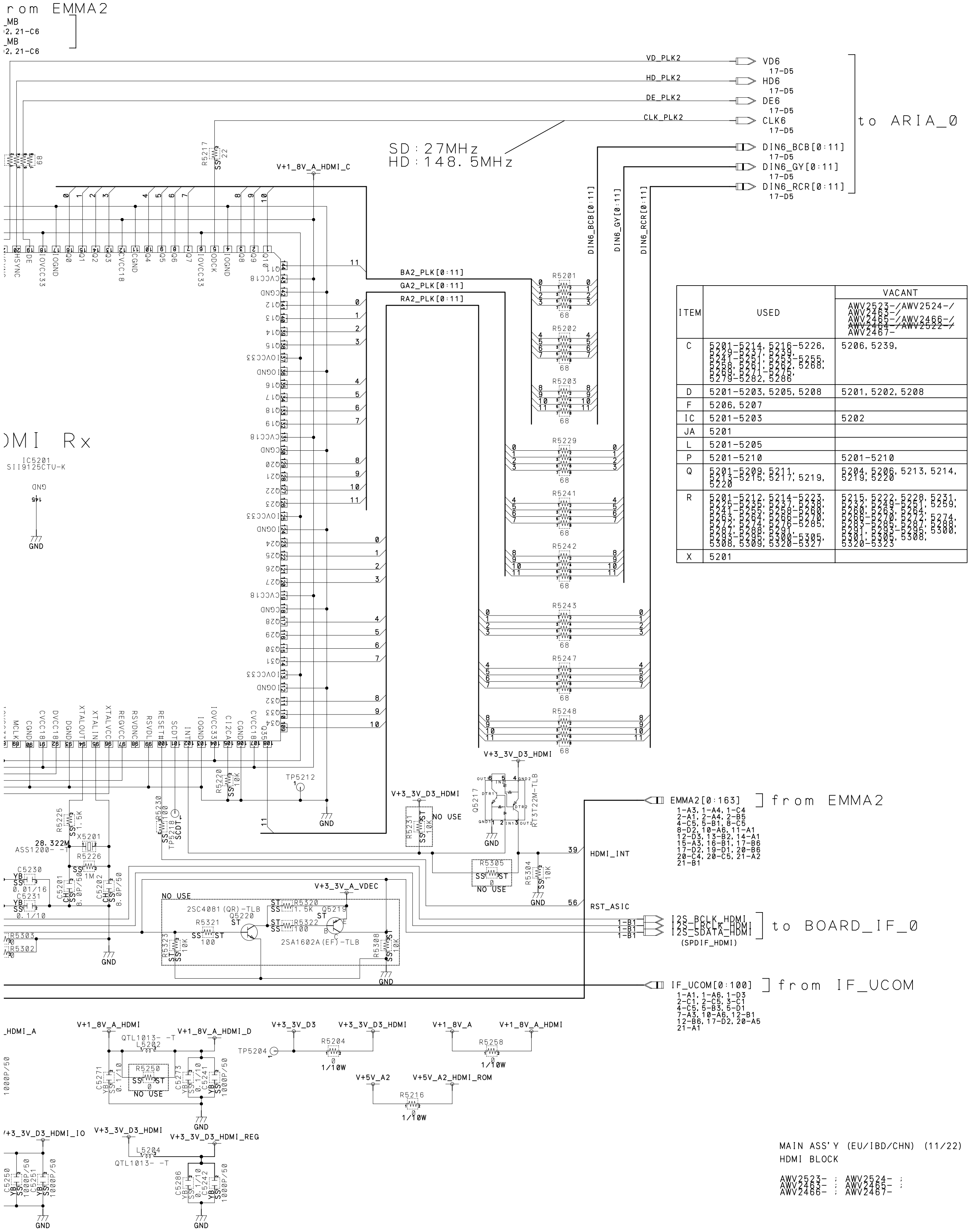
[−]=Arbitrariness

MAIN ASS'Y (EU/IBD/CHN) (10/22)
HDMI_SW BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

9.11 MAIN ASSY (11/20) [HDMI BLOCK]


from HDMI_SW
HDMI_S2
10-A6
from EMMA2
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 10-A6, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
HDMI_S3
118
BR24L02FV-W-TBB
IC5203
DDC1
A0
A1
A2
GND
VCC
WP
SCL
SDA
NO USE
V+DDC5V_3
V+DDC5V_2
V+DDC5V_1
V+3_3V_D3_HDMI
V+5V_EDID_24
V+5V_A2_HDMI_ROM
Q5214
Q5213
RN1902-T
1SS301-TLB
D5202
D5208
RT3T22M-TLB
Q5215
Q5203
Q5204
SSM6N17FU-T
Q5201
Q5206
UDZS6R8(B)-TRB
D5203
D5201
DCH1201- -T
from E
SCL_MB
8-D2, 21-C6
SDA_MB
8-D2, 21-C6
DSCL_0
DSDA_0
DSCL_1
DSDA_1
10-A4
to HDMI_SW
V+3_3V_D3_HDMI_IO
V+1_8V_A_HDMI_A
V+3_3V_D3_HDMI_A
TP5201
HDMI1 INPUT
AKP1318- -K
JA5201
TXD
RXD
29
30
Impedance 100Ω
TMDS_1[0:7]
ACN1275- -T
R5324
R5325
R5326
R5327
5.6
HDMI
IC5201
SII9125CTU
+3.3V
+1.8V
AGND
AVCC33
AVCC18
RSVDNC
R0XC-
R0XC+
R0X0-
R0X0+
R0X1-
R0X1+
R0X2-
R0X2+
R1XC-
R1XC+
R1X0-
R1X0+
R1X1-
R1X1+
R1X2-
R1X2+
DSCL0
DSDA0
DSCL1
DSDA1
R0PWR5V
R1PWR5V
IOVCC33
IOGND
CSCL
CSDA
CVCC18
CGND
EVNODD
VSYNC
HSYNC
DE
MUTEOUT
SPDIF
SD1
WS
SCK
MCLK
WP_HDMI1
75
HOT_P1
57
Q5205
Q5209
Q5211
RT1N241M-TLB
V+3_3V_UCOM
HDMI_DET1
40
HDMI_DET2
41
HDMI_DET3
42
EMMA2[0:163]
IF_UCOM[0:100]
TMDS_2[0:7]
IC5202
TC7SH04FUS1-TLB
NC
IN A
VCC
GND
OUT Y
V+3_3V_STB
2SA1602A(EF)-TLB
Q5202
Q5208
HN1C01FU(YGR)-T
RB520S-30-TRB
D5205
Q5207
2SC4081(QR)-TLB
HDMI_CEC_IN
18
HDMI_CEC_OUT
19
from HDMI_SW
HDMI_CEC
10-C3
V+3_3V_D3_HDMI_REG
TP5217
MUTE_OUT
ASS1200-
28.3
L5201
QTL1013- -T
from HDMI_SW
TMDS_2[0:7]
10-B6
Impedance 100Ω
V+1_8V_A_HDMI
V+1_8V_A_HDMI_A
V+1_8V_A_HDMI_C
V+1_8V_A_HDMI_D
L5205
L5203
ATF1211- -T
F5206
F5207
GND

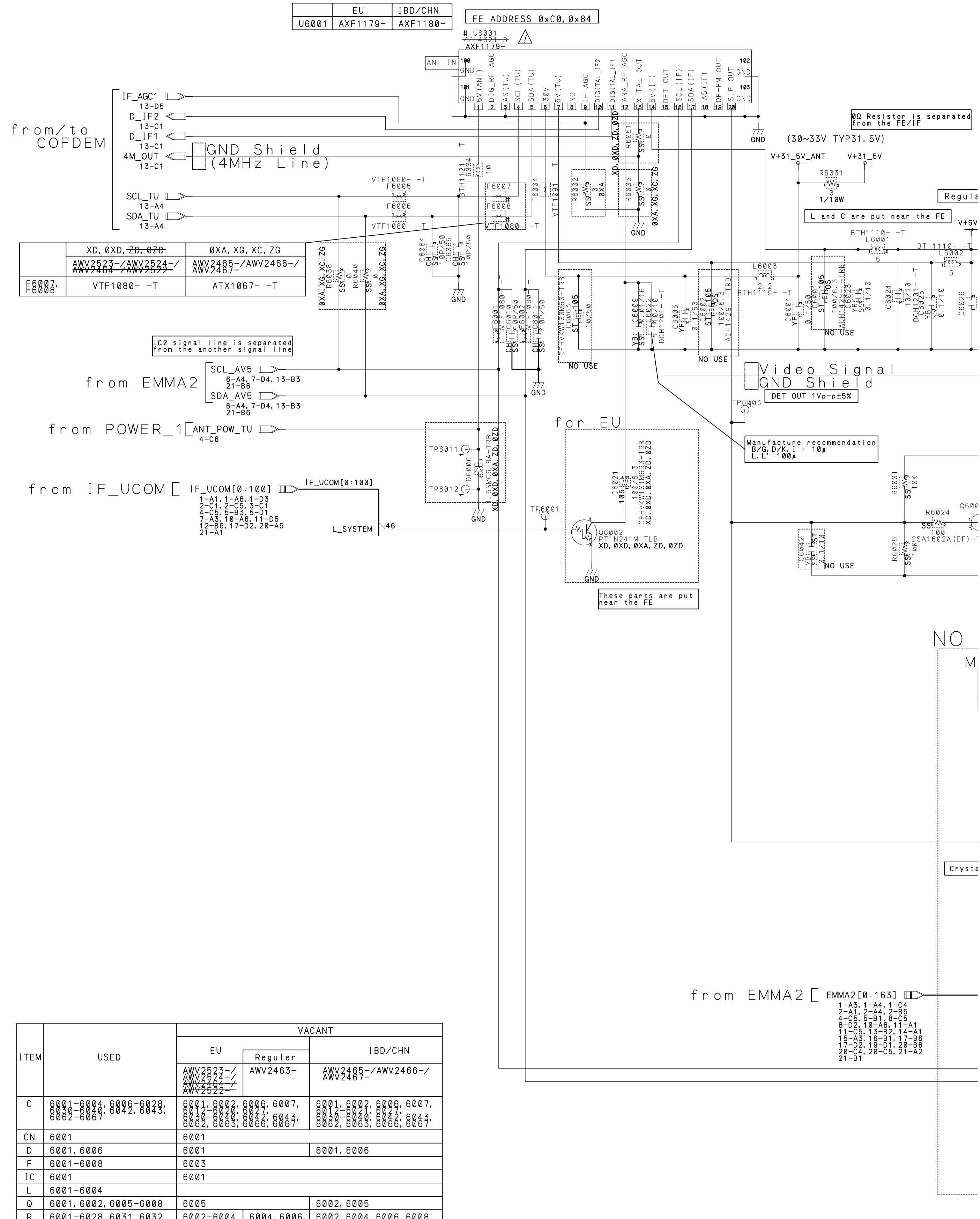

from EMMA2
VD_PLK2
HD_PLK2
DE_PLK2
CLK_PLK2
VD6
17-D5
HD6
17-D5
DE6
17-D5
CLK6
17-D5
to ARIA_0
SD:27MHz
HD:148.5MHz
DIN6_BCB[0:11]
17-D5
DIN6_GY[0:11]
17-D5
DIN6_RCR[0:11]
17-D5
V+1_8V_A_HDMI_C
R5217
22
BA2_PLK[0:11]
GA2_PLK[0:11]
RA2_PLK[0:11]
R5201
68
R5202
68
R5203
68
R5229
68
R5241
68
R5242
68
R5243
68
R5247
68
R5248
68
DMI Rx
IC5201
SII9125CTU-K
GND
V+3_3V_D3_HDMI
Q5217
RT3T22M-TLB
TP5212
R5220
10K
R5231
10K
NO USE
R5225
1.5K
X5201
28.322M
ASS1200- -T
R5226
1M
C5230
0.01/16
C5231
0.1/10
C5201
8.0P/50
C5202
8.0P/50
R5230
100
TP5218
SCDT
R5305
0
NO USE
R5304
10K
EMMA2[0:163]
from EMMA2
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 10-A6, 11-A1
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
39
HDMI_INT
56
RST_ASIC
V+3_3V_A_VDEC
NO USE
2SC4081(QR)-TLB
Q5220
R5321
100
R5320
1.5K
R5322
100
Q5219
2SA1602A(EF)-TLB
R5323
10K
R5308
10K
R5303
R5302
GND
I2S_BCLK_HDMI
I2S_LRCLK_HDMI
I2S_SDATA_HDMI
1-B1
1-B1
1-B1
(SPDIF_HDMI)
to BOARD_IF_0
IF_UCOM[0:100]
from IF_UCOM
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
4-C5, 5-B3, 5-D1
7-A3, 10-A6, 12-B1
12-B6, 17-D2, 20-A5
21-A1
V+1_8V_A_HDMI
V+1_8V_A_HDMI_D
QTL1013- -T
L5202
R5250
0
NO USE
C5271
0.1/10
C5273
0.1/10
C5241
1000P/50
V+3_3V_D3
V+3_3V_D3_HDMI
TP5204
R5204
0
1/10W
V+1_8V_A
V+1_8V_A_HDMI
R5258
0
1/10W
V+5V_A2
V+5V_A2_HDMI_ROM
R5216
0
1/10W
V+3_3V_D3_HDMI_IO
V+3_3V_D3_HDMI
V+3_3V_D3_HDMI_REG
L5204
QTL1013- -T
C5250
1000P/50
C5251
1000P/50
C5286
0.1/10
C5242
1000P/50

ITEM	USED	VACANT
		AWV2523-/AWV2524-/ AWV2463-/ AWV2465-/AWV2466-/ ~~AWV2464-/AWV2522-/~~ AWV2467-
C	5201-5214, 5216-5226, 5229-5237, 5239, 5241-5251, 5253-5255, 5258, 5261, 5262, 5268, 5269, 5271-5275, 5279-5282, 5286	5206, 5239,
D	5201-5203, 5205, 5208	5201, 5202, 5208
F	5206, 5207	
IC	5201-5203	5202
JA	5201	
L	5201-5205	
P	5201-5210	5201-5210
Q	5201-5209, 5211, 5213-5215, 5217, 5219, 5220	5204, 5206, 5213, 5214, 5219, 5220
R	5201-5212, 5214-5223, 5225-5235, 5237, 5238, 5241-5255, 5258-5260, 5263, 5264, 5266-5270, 5272, 5274, 5276-5285, 5287, 5288, 5291, 5293-5295, 5300-5305, 5308, 5309, 5320-5327	5215, 5222, 5228, 5231, 5232, 5249-5251, 5259, 5260, 5263, 5264, 5266-5270, 5272, 5274, 5283-5285, 5287, 5288, 5291, 5293-5295, 5300, 5301, 5305, 5308, 5320-5323
X	5201	

MAIN ASS'Y (EU/IBD/CHN) (11/22)
HDMI BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

9.12 MAIN ASSY (12/20) [TUNER BLOCK]

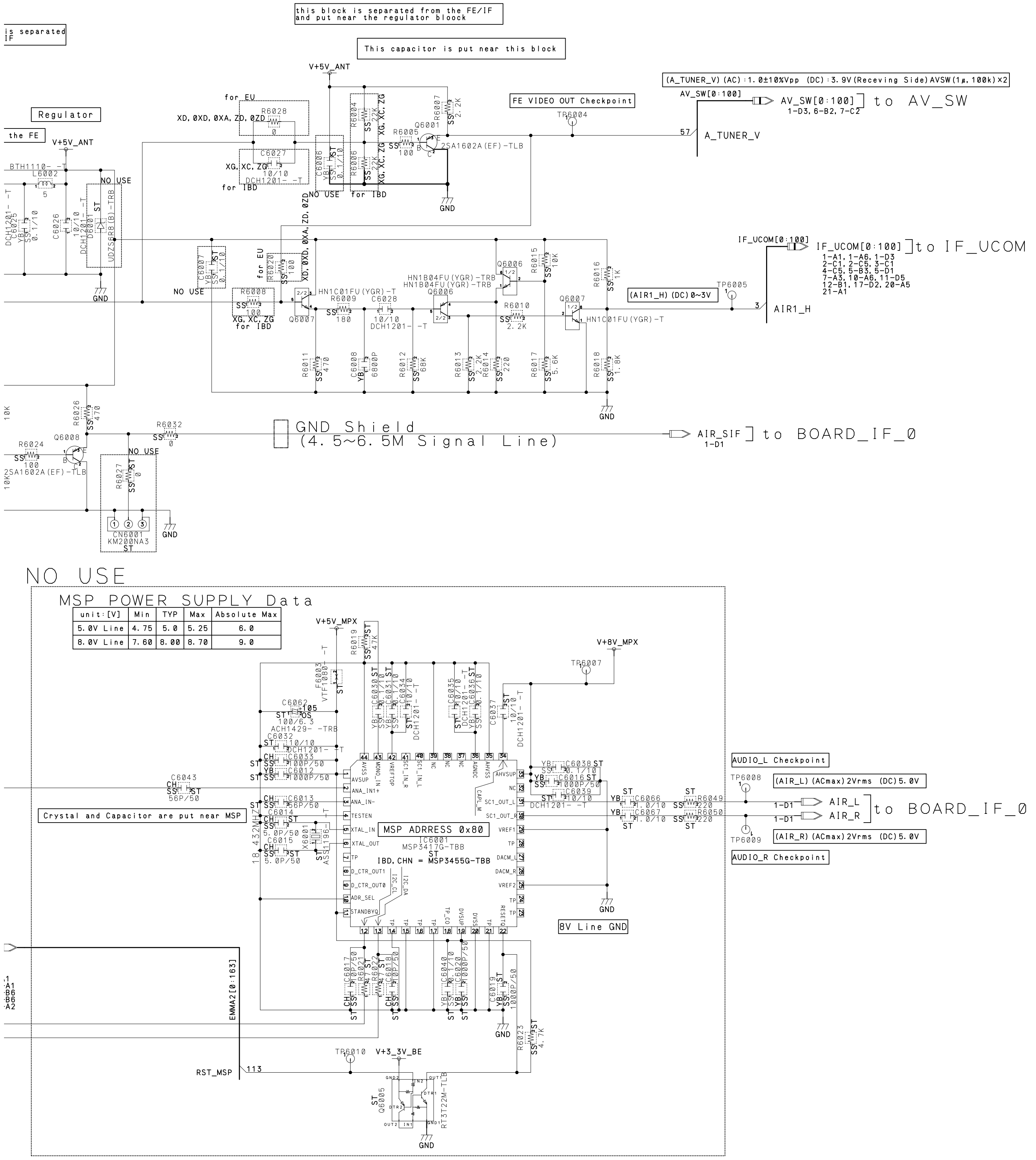

A
B
C
D
E
F
FE ADDRESS 0xC0, 0x84
# U6001
~~ZZ 4321 B~~
AXF1179-
ANT IN
GND
5V(ANT)
DIG_RF AGC
AS(TU)
SCL(TU)
SDA(TU)
30V
5V(TU)
NC
IF AGC
DIGITAL_IF2
DIGITAL_IF1
ANA_RF AGC
X-TAL OUT
5V(IF)
DET OUT
SCL(IF)
SDA(IF)
AS(IF)
DE-EM OUT
SIF OUT
from/to COFDEM
IF_AGC1 13-D5
D_IF2 13-C1
D_IF1 13-C1
4M_OUT 13-C1
GND Shield (4MHz Line)
SCL_TU 13-A4
SDA_TU 13-A4
VTF1080- -T
F6005
F6006
F6007
F6008
BTH1121- -T
L6004
VTF1091- -T
F6004
R6002
R6003
R6051
XD, 0XD, 0XA, ZD, 0ZD
0XA, XG, XC, ZG
0Ω Resistor is separated from the FE/IF
GND
(30~33V TYP31.5V)
V+31_5V_ANT
V+31_5V
R6031
1/10W
Regula
L and C are put near the FE
BTH1110- -T
L6001
L6002
L6003
BTH1119- -T
ACH1429- -TRB
DCH1201- -T
C6064
C6065
R6038
R6040
C6063
CEHVKW100M50-TRB
C6009
C6003
C6002
C6004
C6001
C6024
C6025
C6026
NO USE
IC2 signal line is separated from the another signal line
from EMMA2
SCL_AV5 6-A4, 7-D4, 13-B3 21-B6
SDA_AV5 6-A4, 7-D4, 13-B3 21-B6
Video Signal GND Shield
DET OUT 1Vp-p±5%
TP6003
Manufacture recommendation B/G, D/K, I : 10μ L.L' :100μ
from POWER_1
ANT_POW_TU 4-C6
TP6011
TP6012
D6006
1.5SMC6.8A-TRB
XD, 0XD, 0XA, ZD, 0ZD
for EU
C6021
CEHVKW101M6R3-TRB
Q6002
RT1N241M-TLB
XD, 0XD, 0XA, ZD, 0ZD
TP6001
These parts are put near the FE
from IF_UCOM
IF_UCOM[0:100] 1-A1, 1-A6, 1-D3 2-C1, 2-C5, 3-C1 4-C5, 5-B3, 5-D1 7-A3, 10-A6, 11-D5 12-B6, 17-D2, 20-A5 21-A1
L_SYSTEM
46
R6001
R6024
R6025
Q600
2SA1602A(EF)-
C6042
NO
M
Crysta
from EMMA2
EMMA2[0:163] 1-A3, 1-A4, 1-C4 2-A1, 2-A4, 2-B5 4-C5, 5-B1, 8-C5 8-D2, 10-A6, 11-A1 11-C5, 13-B2, 14-A1 15-A3, 16-B1, 17-B6 17-D2, 19-D1, 20-B6 20-C4, 20-C5, 21-A2 21-B1

	EU	IBD/CHN
U6001	AXF1179-	AXF1180-

	XD, 0XD, ~~ZD, 0ZD~~	0XA, XG, XC, ZG
	AWV2523-/AWV2524-/ ~~AWV2464-/AWV2522-~~	AWV2465-/AWV2466-/ AWV2467-
F6007, F6008	VTF1080- -T	ATX1067- -T

ITEM	USED	VACANT		
		EU		IBD/CHN
			Reguler	
		AWV2523-/ AWV2524-/ ~~AWV2464-/~~ ~~AWV2522-~~	AWV2463-	AWV2465-/AWV2466-/ AWV2467-
C	6001-6004, 6006-6028, 6030-6040, 6042, 6043, 6062-6067	6001, 6002, 6006, 6007, 6012-6020, 6027, 6030-6040, 6042, 6043, 6062, 6063, 6066, 6067		6001, 6002, 6006, 6007, 6012-6021, 6027, 6030-6040, 6042, 6043, 6062, 6063, 6066, 6067
CN	6001	6001		
D	6001, 6006	6001		6001, 6006
F	6001-6008	6003		
IC	6001	6001		
L	6001-6004			
Q	6001, 6002, 6005-6008	6005		6002, 6005
R	6001-6028, 6031, 6032, 6038, 6040, 6049-6051	6002-6004, 6006, 6008, 6008, 6019, 6021-6023, 6027, 6038, 6040, 6049, 6050	6004, 6006, 6008, 6019, 6021-6023, 6027, 6049-6051	6002, 6004, 6006, 6008, 6019, 6021-6023, 6027, 6049-6051
U	6001			
X	6001	6001		

The ⚠ mark found
with same parts (s
designation.


this block is separated from the FE/IF and put near the regulator bloock
This capacitor is put near this block
is separated IF
Regulator
the FE
V+5V_ANT
for EU
XD, 0XD, 0XA, ZD, 0ZD
R6028
C6027
XG, XC, ZG
for IBD
NO USE
FE VIDEO OUT Checkpoint
TP6004
Q6001
2SA1602A(EF)-TLB
(A_TUNER_V) (AC):1.0±10%Vpp (DC):3.9V(Receving Side)AVSW(1μ,100k)×2
AV_SW[0:100]
to AV_SW
1-D3, 6-B2, 7-C2
57
A_TUNER_V
IF_UCOM[0:100]
to IF_UCOM
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
4-C5, 5-B3, 5-D1
7-A3, 10-A6, 11-D5
12-B1, 17-D2, 20-A5
21-A1
(AIR1_H) (DC) 0~3V
TP6005
3
AIR1_H
HN1C01FU(YGR)-T
HN1B04FU(YGR)-TRB
Q6006
Q6007
GND
GND Shield
(4.5~6.5M Signal Line)
AIR_SIF
1-D1
to BOARD_IF_0
Q6008
2SA1602A(EF)-TLB
CN6001
KM200NA3
NO USE
MSP POWER SUPPLY Data
V+5V_MPX
V+8V_MPX
TP6007
Crystal and Capacitor are put near MSP
MSP ADRRESS 0x80
IC6001
MSP3417G-TBB
IBD, CHN = MSP3455G-TBB
X6001
18.432MHz
AUDIO_L Checkpoint
TP6008
(AIR_L) (ACmax) 2Vrms (DC) 5.0V
AIR_L
AIR_R
1-D1
to BOARD_IF_0
TP6009
(AIR_R) (ACmax) 2Vrms (DC) 5.0V
AUDIO_R Checkpoint
8V Line GND
EMMA2[0:163]
RST_MSP
113
TP6010
V+3_3V_BE
Q6005
RT3T22M-TLB

unit:[V]	Min	TYP	Max	Absolute Max
5.0V Line	4.75	5.0	5.25	6.0
8.0V Line	7.60	8.00	8.70	9.0

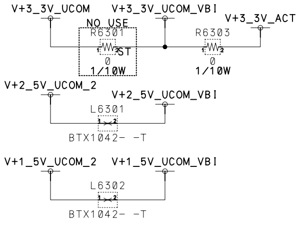
mark found on some component parts should be replaced
me parts (safety regulation authorized) of identical
tion.

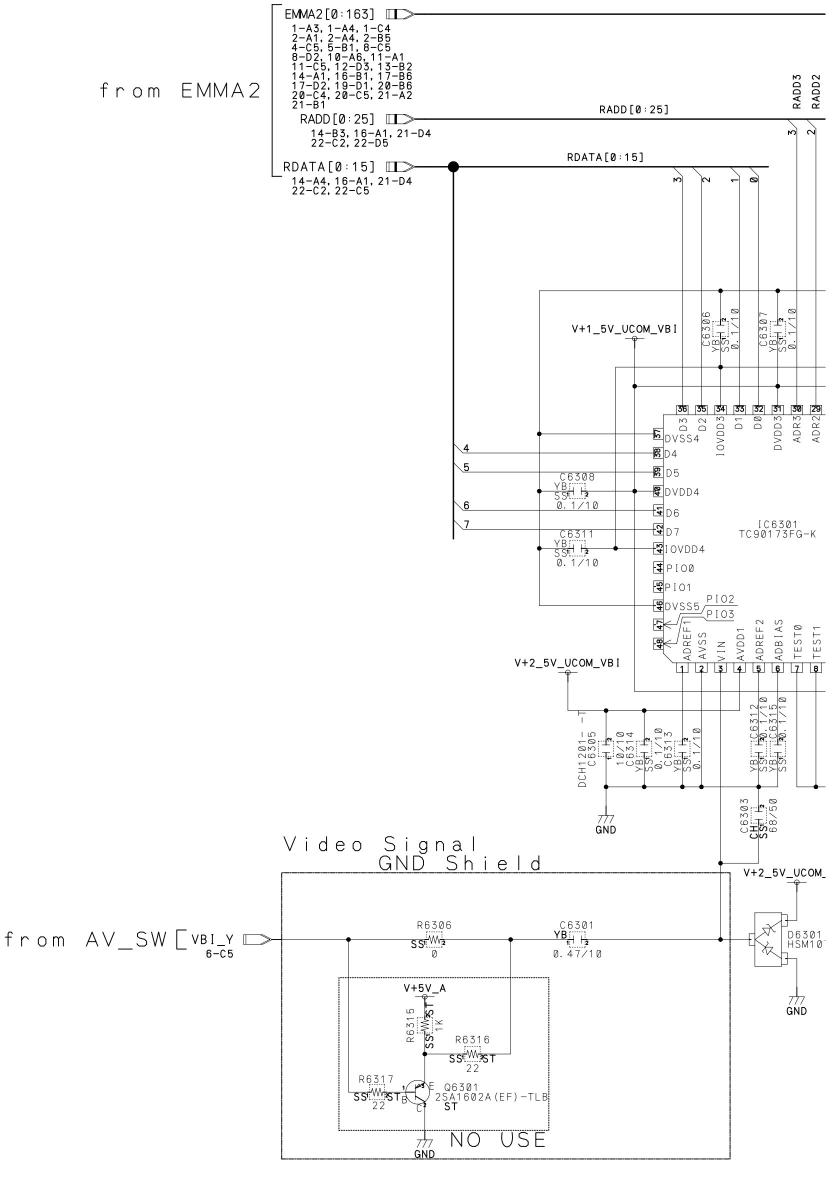
MAIN ASS'Y (EU/IBD/CHN) (12/22)
TUNER BLOCK

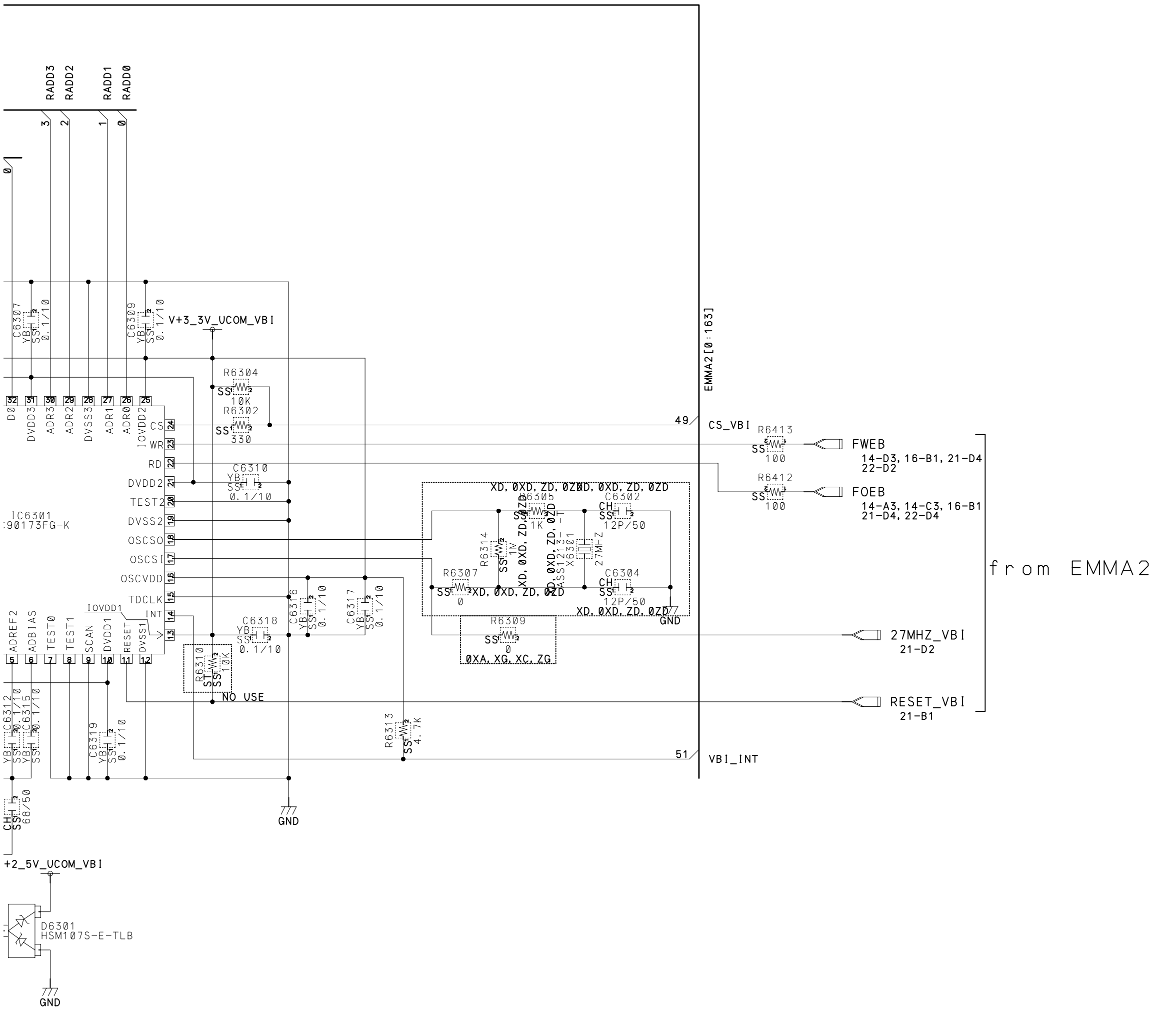
AWV2523- : AWV2524- :
AWV2465- : AWV2465-
AWV2466- : AWV2467-

9.13 MAIN ASSY (13/20) [VBI SLICER BLOCK]

ITEM	USED	VACANT	
		SD	IBD/CHN
		AWV2523-/AWV2524-/ AWV2464-/AWV2522-	AWV2463- AWV2465-/AWV2466-/ AWV2467-
C	6301-6319		6302, 6304
D	6301		
IC	6301		
L	6301, 6302		
Q	6301	6301	
R	6301-6307, 6309, 6310, 6313-6317, 6412, 6413	6301, 6309, 6310, 6315-6317	6301, 6305, 6307, 6310, 6314-6317
X	6301		6301


V+3_3V_UCOM
V+3_3V_UCOM_VBI
V+3_3V_ACT
NO USE
R6301
ST
0
1/10W
R6303
0
1/10W
V+2_5V_UCOM_2
V+2_5V_UCOM_VBI
L6301
BTX1042- -T
V+1_5V_UCOM_2
V+1_5V_UCOM_VBI
L6302
BTX1042- -T


from EMMA2
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 10-A6, 11-A1
11-C5, 12-D3, 13-B2
14-A1, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
RADD[0:25]
14-B3, 16-A1, 21-D4
22-C2, 22-D5
RDATA[0:15]
14-A4, 16-A1, 21-D4
22-C2, 22-C5
RADD3
RADD2
V+1_5V_UCOM_VBI
C6306
YB
SS
0.1/10
C6307
YB
SS
0.1/10
D3
D2
IOVDD3
D1
D0
DVDD3
ADR3
ADR2
DVSS4
D4
D5
DVDD4
D6
D7
IOVDD4
PIO0
PIO1
DVSS5
PIO2
PIO3
C6308
YB
SS
0.1/10
C6311
YB
SS
0.1/10
IC6301
TC90173FG-K
ADREF1
AVSS
VIN
AVDD1
ADREF2
ADBIAS
TEST0
TEST1
V+2_5V_UCOM_VBI
DCH1201- -T
C6305
10/10
C6314
YB
SS
0.1/10
C6313
YB
SS
0.1/10
C6312
YB
SS
0.1/10
C6315
YB
SS
0.1/10
C6303
CH
SS
68/50
GND
Video Signal
GND Shield
V+2_5V_UCOM_
from AV_SW
VBI_Y
6-C5
R6306
SS
0
C6301
YB
0.47/10
D6301
HSM10
GND
V+5V_A
R6315
SS
ST
1K
R6316
SS
ST
22
R6317
SS
ST
22
Q6301
2SA1602A(EF)-TLB
ST
NO USE
GND

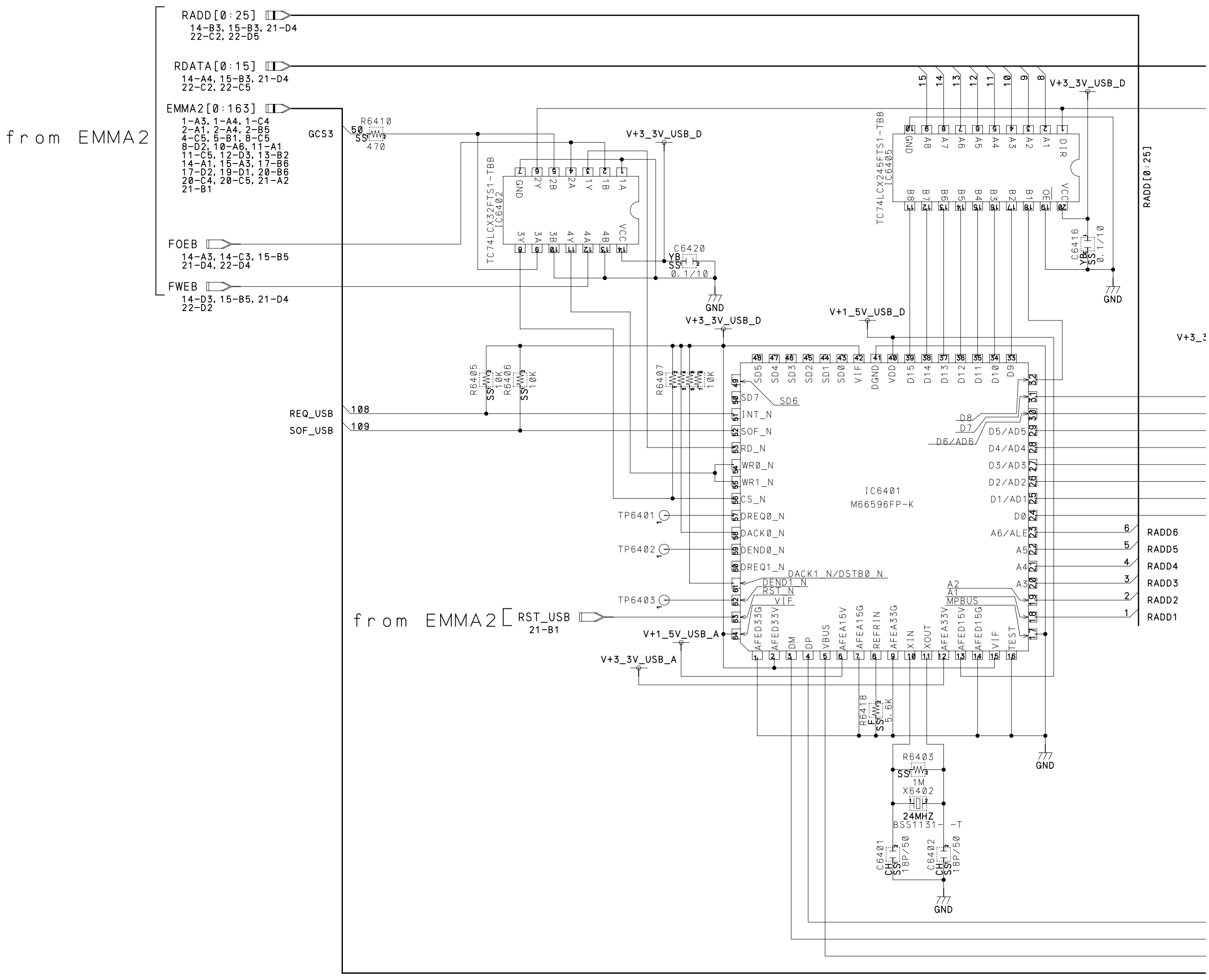

RADD3
RADD2
RADD1
RADD0
3
2
1
0
0
C6307
YB
SS
0.1/10
C6309
YB
SS
0.1/10
V+3_3V_UCOM_VBI
EMMA2[0:163]
R6304
SS
10K
R6302
SS
330
32
31
30
29
28
27
26
25
D0
DVDD3
ADR3
ADR2
DVSS3
ADR1
ADR0
IOVDD2
CS 24
WR 23
RD 22
DVDD2 21
TEST2 20
DVSS2 19
OSCSO 18
OSCSI 17
OSCVDD 16
TDCLK 15
INT 14
13
IOVDD1
IC6301
:90173FG-K
C6310
YB
SS
0.1/10
49
CS_VBI
R6413
SS
100
FWEB
14-D3, 16-B1, 21-D4
22-D2
R6412
SS
100
FOEB
14-A3, 14-C3, 16-B1
21-D4, 22-D4
from EMMA2
XD, 0XD, ZD, 0ZD
XD, 0XD, ZD, 0ZD
R6305
SS
1K
C6302
CH
SS
12P/50
R6314
SS
1M
XD, 0XD, ZD, 0ZD
XD, 0XD, ZD, 0ZD
ASS1213-T
X6301
27MHZ
R6307
SS
0
XD, 0XD, ZD, 0ZD
C6304
CH
SS
12P/50
XD, 0XD, ZD, 0ZD
GND
R6309
SS
0
0XA, XG, XC, ZG
27MHZ_VBI
21-D2
ADREF2
ADBIAS
TEST0
TEST1
SCAN
DVDD1
RESET
DVSS1
5
6
7
8
9
10
11
12
C6316
YB
SS
0.1/10
C6317
YB
SS
0.1/10
C6318
YB
SS
0.1/10
R6310
ST
SS
10K
NO USE
RESET_VBI
21-B1
C6312
YB
SS
0.1/10
C6315
YB
SS
0.1/10
C6319
YB
SS
0.1/10
R6313
SS
4.7K
51
VBI_INT
GND
CH
SS
68/50
+2_5V_UCOM_VBI
D6301
HSM107S-E-TLB
GND

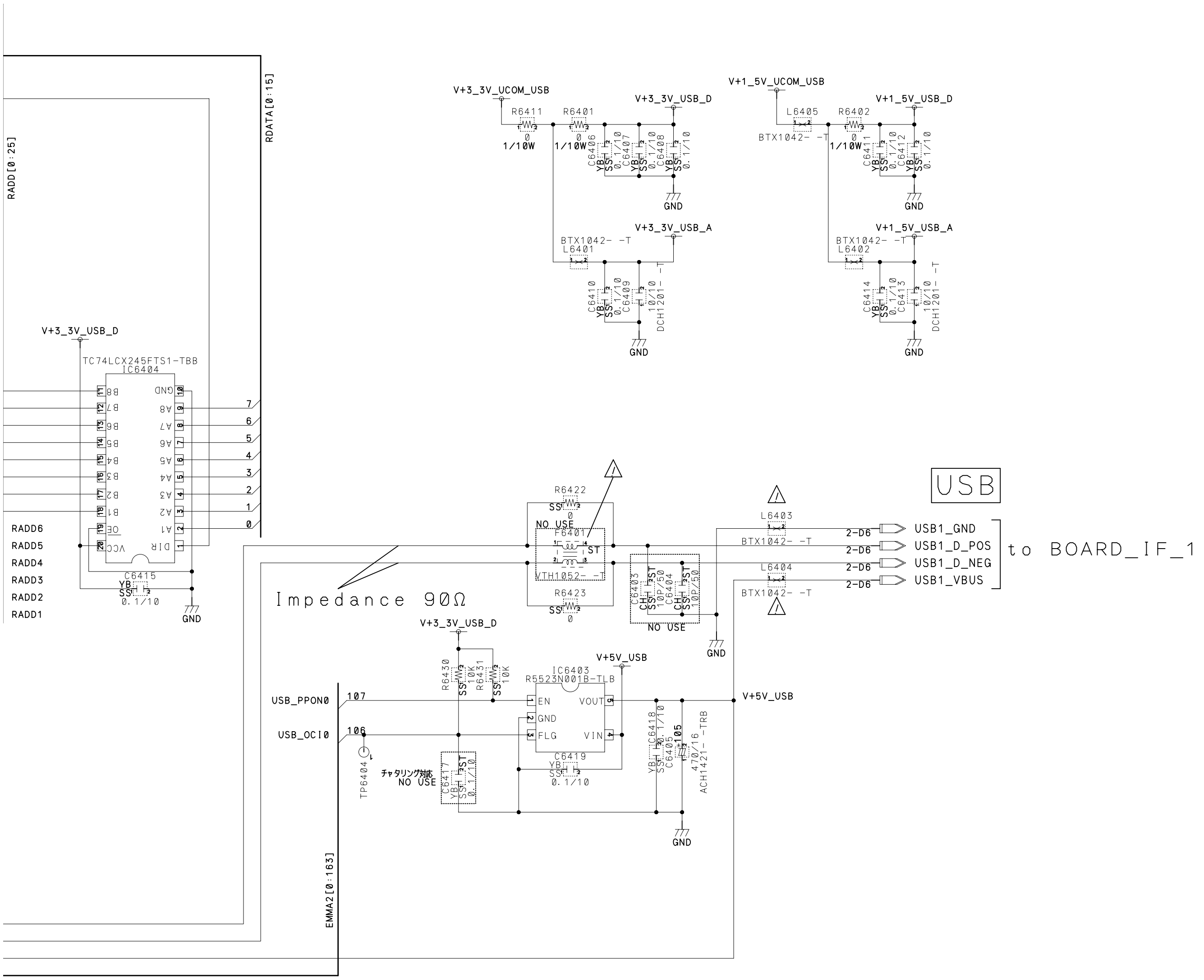
MAIN ASS'Y (EU/IBD/CHN) (15/22)
VBI_SLICER BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

9.14 MAIN ASSY (14/20) [USB BLOCK]

ITEM	USED	VACANT
		AWV2523-/ AWV2465-/AWV2466-/ ~~AWV2464-/AWV2522-/~~ AWV2467-
C	6401-6420	6403, 6404, 6417
F	6401	6401
IC	6401-6405	
L	6401-6405	
R	6401-6403, 6405-6407, 6410, 6411, 6418, 6422, 6423, 6430, 6431	
X	6402	


from EMMA2
RADD[0:25]
14-B3, 15-B3, 21-D4
22-C2, 22-D5
RDATA[0:15]
14-A4, 15-B3, 21-D4
22-C2, 22-C5
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 10-A6, 11-A1
11-C5, 12-D3, 13-B2
14-A1, 15-A3, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
FOEB
14-A3, 14-C3, 15-B5
21-D4, 22-D4
FWEB
14-D3, 15-B5, 21-D4
22-D2
GCS3
50
R6410
SS
470
TC74LCX32FTS1-TBB
IC6402
GND
2Y
2B
2A
1Y
1B
1A
3Y
3A
3B
4Y
4A
4B
VCC
V+3_3V_USB_D
C6420
YB
SS
0.1/10
GND
15
14
13
12
11
10
9
8
TC74LCX245FTS1-TBB
IC6405
DIR
A1
A2
A3
A4
A5
A6
A7
A8
B1
B2
B3
B4
B5
B6
B7
B8
OE
C6416
0.1/10
RADD[0:25]
V+1_5V_USB_D
V+3_3V_USB_D
R6405
10K
R6406
10K
R6407
10K
REQ_USB
108
SOF_USB
109
IC6401
M66596FP-K
SD5
SD4
SD3
SD2
SD1
SD0
VIF
DGND
VDD
D15
D14
D13
D12
D11
D10
D9
SD7
SD6
INT_N
SOF_N
RD_N
WR0_N
WR1_N
CS_N
DREQ0_N
DACK0_N
DEND0_N
DREQ1_N
DACK1_N/DSTB0_N
DEND1_N
RST_N
VIF
TP6401
TP6402
TP6403
from EMMA2
RST_USB
21-B1
V+1_5V_USB_A
V+3_3V_USB_A
D8
D7
D6/AD6
D5/AD5
D4/AD4
D3/AD3
D2/AD2
D1/AD1
D0
A6/ALE
A5
A4
A3
A2
A1
MPBUS
RADD6
RADD5
RADD4
RADD3
RADD2
RADD1
AFED33G
AFED33V
DM
DP
VBUS
AFEA15V
AFEA15G
REFRIN
AFEA33G
XIN
XOUT
AFEA33V
AFED15V
AFED15G
VIF
TEST
R6418
F
SS
5.6K
GND
R6403
SS
1M
X6402
24MHZ
BSS1131- -T
C6401
CH
SS
18P/50
C6402
CH
SS
18P/50
GND
V+3_3


RADD[0:25]
RDATA[0:15]
V+3_3V_UCOM_USB
R6411
0
1/10W
R6401
0
1/10W
V+3_3V_USB_D
C6406 YB SS 0.1/10
C6407 YB SS 0.1/10
C6408 YB SS 0.1/10
GND
V+3_3V_USB_A
BTX1042- -T
L6401
C6410 YB SS 0.1/10
C6409 10/10 DCH1201- -T
GND
V+1_5V_UCOM_USB
L6405
BTX1042- -T
R6402
0
1/10W
V+1_5V_USB_D
C6411 YB SS 0.1/10
C6412 YB SS 0.1/10
GND
V+1_5V_USB_A
BTX1042- -T
L6402
C6414 YB SS 0.1/10
C6413 10/10 DCH1201- -T
GND
V+3_3V_USB_D
TC74LCX245FTS1-TBB
IC6404
B8 B7 B6 B5 B4 B3 B2 B1 OE VCC
GND A8 A7 A6 A5 A4 A3 A2 A1 DIR
7 6 5 4 3 2 1 0
RADD6
RADD5
RADD4
RADD3
RADD2
RADD1
C6415 YB SS 0.1/10
GND
R6422 SS 0
NO USE
F6401
ST
VTH1052- -T
R6423 SS 0
Impedance 90Ω
C6403 CH SS ST 10P/50
C6404 CH SS ST 10P/50
NO USE
GND
L6403
BTX1042- -T
L6404
BTX1042- -T
2-D6
2-D6
2-D6
2-D6
USB1_GND
USB1_D_POS
USB1_D_NEG
USB1_VBUS
USB
to BOARD_IF_1
V+3_3V_USB_D
R6430 SS 10K
R6431 SS 10K
V+5V_USB
IC6403
R5523N001B-TLB
EN GND FLG VOUT VIN
USB_PPON0
107
USB_OCI0
106
TP6404
チャタリング対応
NO USE
C6417 YB SS ST 0.1/10
C6419 YB SS 0.1/10
C6418 YB SS 0.1/10
C6405 105 470/16 ACH1421- -TRB
V+5V_USB
GND
EMMA2[0:163]

Except for Regular

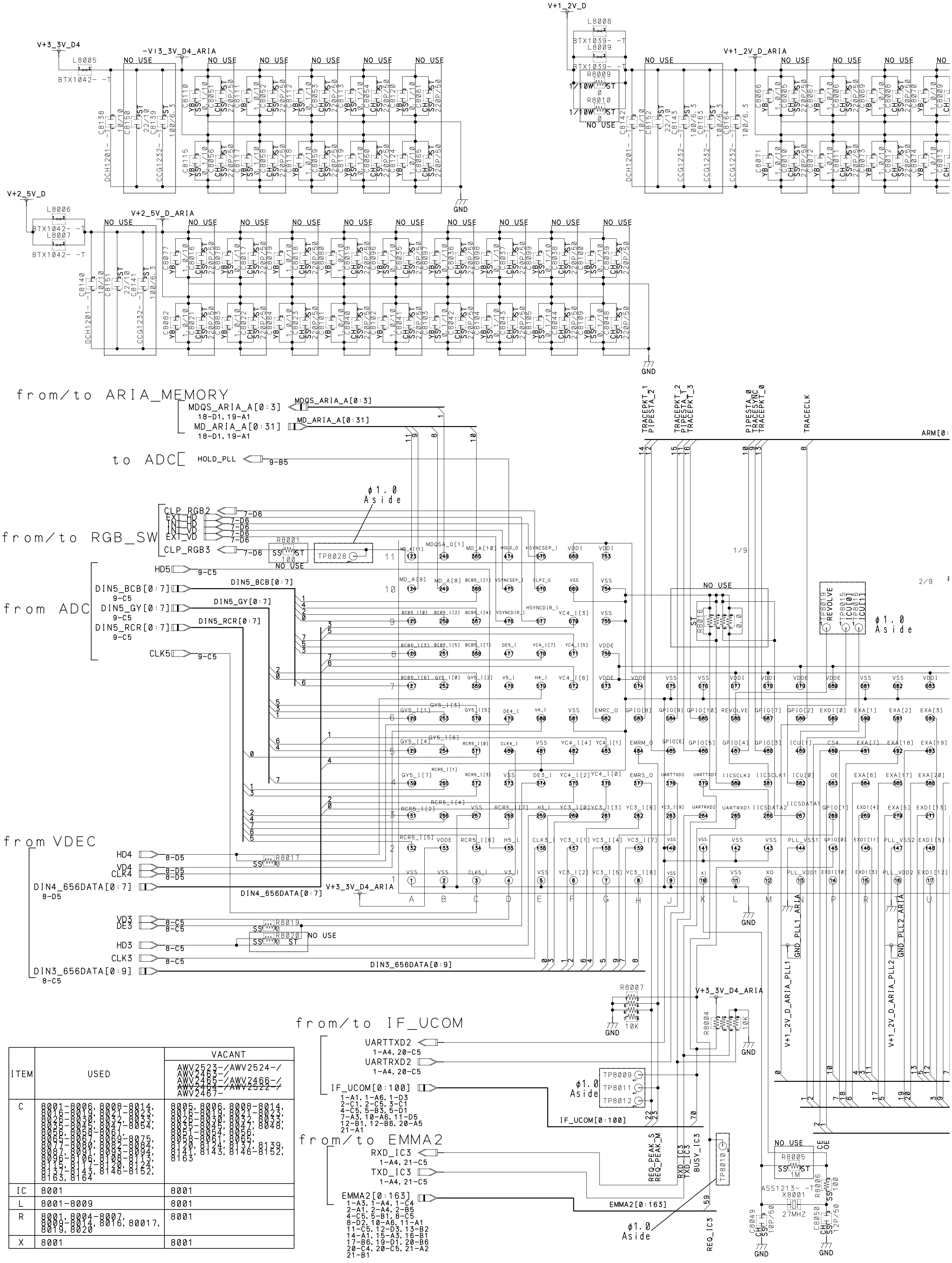
(for XD, XG, XC, ~~ZD, 0ZD,~~ ZG)

MAIN ASS'Y (EU/IBD/CHN) (16/22)
USB BLOCK

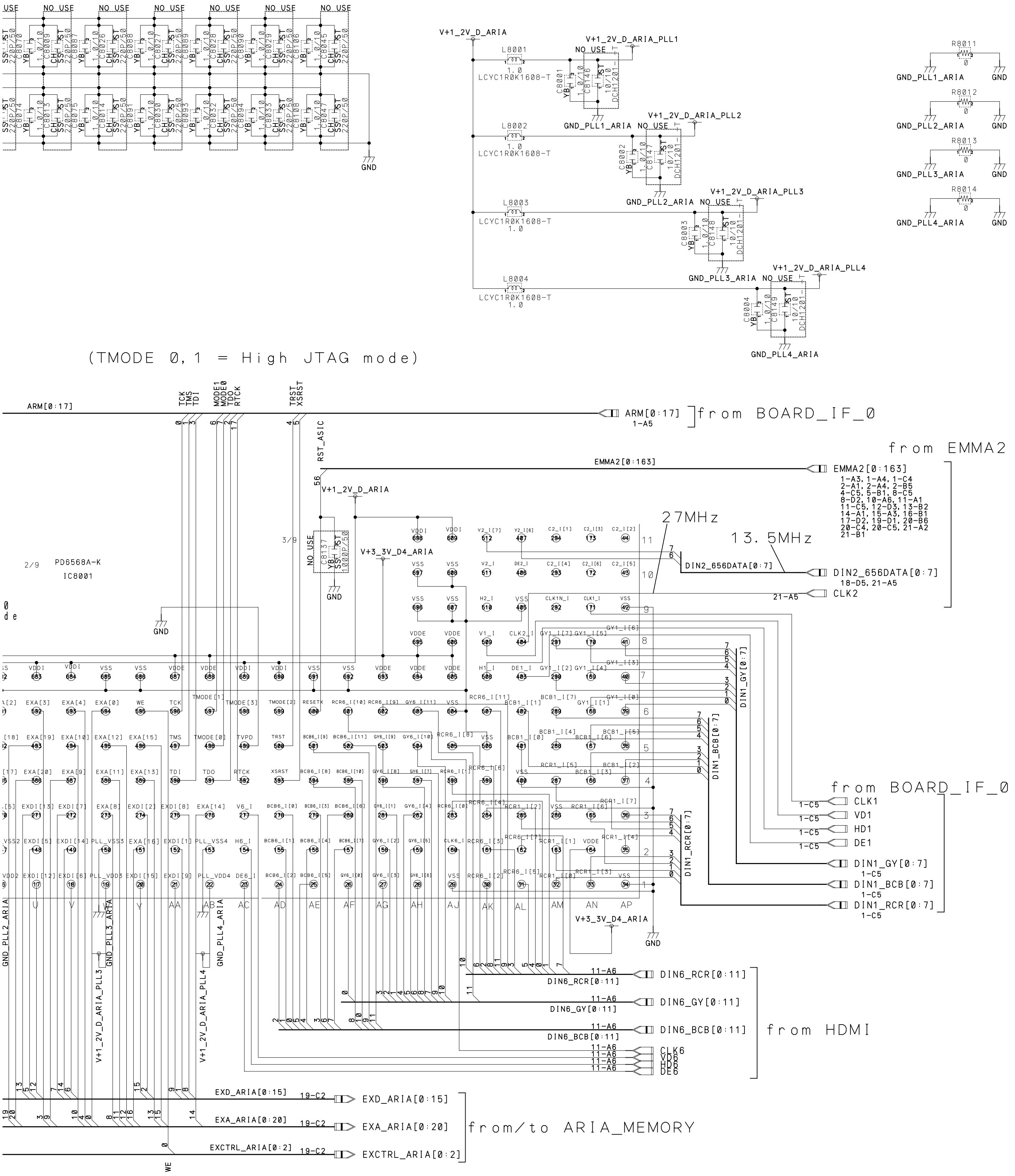
AWV2523- ; AWV2465- ;
AWV2466- ; AWV2467-

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

9.15 MAIN ASSY (15/20) [ARIA 0 BLOCK]


A
B
C
D
E
F
V+3_3V_D4
L8005
BTX1042- -T
-VI3_3V_D4_ARIA
NO USE
V+1_2V_D
L8008
BTX1039- -T
L8009
R8009
R8010
1/10W ST
V+1_2V_D_ARIA
V+2_5V_D
L8006
BTX1042- -T
L8007
V+2_5V_D_ARIA
DCH1201- -T
CCG1232- -T
GND
from/to ARIA_MEMORY
MDQS_ARIA_A[0:3]
18-D1, 19-A1
MD_ARIA_A[0:31]
to ADC
HOLD_PLL
9-B5
ϕ1.0
A side
from/to RGB_SW
CLP_RGB2
EXT_HD
INT_HD
INT_VD
EXT_VD
CLP_RGB3
7-D6
R8001
TP8028
from ADC
HD5
9-C5
DIN5_BCB[0:7]
DIN5_GY[0:7]
DIN5_RCR[0:7]
CLK5
from VDEC
HD4
VD4
CLK4
8-D5
R8017
DIN4_656DATA[0:7]
V+3_3V_D4_ARIA
VD3
DE3
HD3
CLK3
8-C5
R8019
R8020
DIN3_656DATA[0:9]
TRACEPKT_1
PIPESTA_2
TRACEPKT_2
PIPESTA_1
TRACEPKT_3
PIPESTA_0
TRACESYNC
TRACEPKT_0
TRACECLK
ARM[0:
1/9
2/9
R8016
TP8019
REVOLVE
TP8015
ICU[0]
TP8016
ICU[1]
A B C D E F G H J K L M N P R T U
GND_PLL1_ARIA
GND_PLL2_ARIA
V+1_2V_D_ARIA_PLL1
V+1_2V_D_ARIA_PLL2
R8007
10K
R8004
from/to IF_UCOM
UARTTXD2
1-A4, 20-C5
UARTRXD2
IF_UCOM[0:100]
TP8009
TP8011
TP8012
from/to EMMA2
RXD_IC3
1-A4, 21-C5
TXD_IC3
EMMA2[0:163]
REQ_PEAK_S
REQ_PEAK_M
RXD_IC3
TXD_IC3
BUSY_IC3
TP8010
REQ_IC3
R8005
1M
CE
OE
ASS1213- -T
X8001
27MHZ
R8006
C8049
C8050
10P/50
12P/50

ITEM	USED	VACANT
		AWV2523-/AWV2524-/ AWV2463-/ ~~AWV2465-/AWV2466-/~~ ~~AWV2464-/AWV2522-/~~ AWV2467-
C	8001-8006, 8008-8014, 8016-8019, 8021-8023, 8026-8030, 8032, 8033, 8035-8045, 8047-8054, 8056, 8058-8061, 8065-8067, 8069-8075, 8077-8080, 8082-8084, 8087, 8091, 8093-8094, 8096-8106, 8108-8113, 8115, 8117-8120, 8124, 8137-8143, 8146-8152, 8163, 8164	8005, 8006, 8008-8014, 8016-8019, 8021-8023, 8026-8030, 8032, 8033, 8035-8045, 8047, 8048, 8051-8054, 8056, 8058-8061, 8065, 8120, 8124, 8137, 8139, 8141, 8143, 8146-8152, 8163
IC	8001	8001
L	8001-8009	8001
R	8001, 8004-8007, 8009-8014, 8016, 80017, 8019, 8020	8001
X	8001	8001

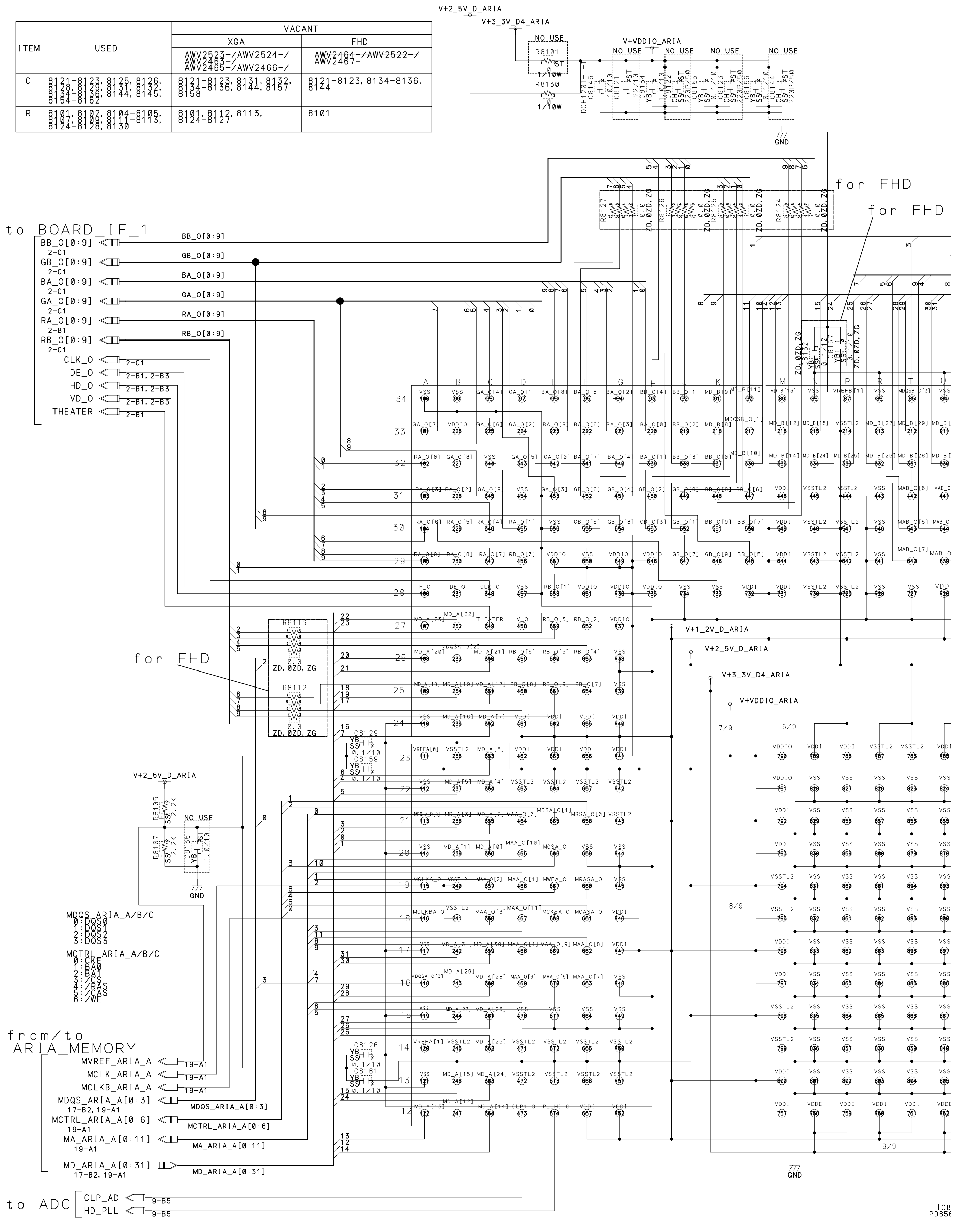

NO USE
C8070 C8073 C8087 C8026 C8088 C8027 C8089 C8028 C8090 C8029 C8106 C8045
C8074 C8015 C8075 C8014 C8091 C8030 C8093 C8032 C8094 C8033 C8108 C8047
1.0/10 YB 220P/50 CH SSL
GND
V+1_2V_D_ARIA
L8001 1.0 LCYC1R0K1608-T
V+1_2V_D_ARIA_PLL1
NO USE
C8001 C8146 DCH1201
GND_PLL1_ARIA NO USE
L8002 1.0 LCYC1R0K1608-T
V+1_2V_D_ARIA_PLL2
C8002 C8147
GND_PLL2_ARIA NO USE
L8003 LCYC1R0K1608-T 1.0
V+1_2V_D_ARIA_PLL3
C8003 C8148
GND_PLL3_ARIA NO USE
L8004 LCYC1R0K1608-T 1.0
V+1_2V_D_ARIA_PLL4
C8004 C8149
GND_PLL4_ARIA
R8011 0 GND_PLL1_ARIA GND
R8012 0 GND_PLL2_ARIA GND
R8013 0 GND_PLL3_ARIA GND
R8014 0 GND_PLL4_ARIA GND
(TMODE 0,1 = High JTAG mode)
ARM[0:17]
TCK TMS TDI MODE1 MODE0 TDO RTCK TRST XSRST
ARM[0:17] 1-A5 from BOARD_IF_0
RST_ASIC
from EMMA2
EMMA2[0:163]
EMMA2[0:163] 1-A3, 1-A4, 1-C4 2-A1, 2-A4, 2-B5 4-C5, 5-B1, 8-C5 8-D2, 10-A6, 11-A1 11-C5, 12-D3, 13-B2 14-A1, 15-A3, 16-B1 17-D2, 19-D1, 20-B6 20-C4, 20-C5, 21-A2 21-B1
V+1_2V_D_ARIA
27MHz
13.5MHz
3/9
NO USE C8137 YB SSL 1000P/50
V+3_3V_D4_ARIA
2/9 PD6568A-K IC8001
GND
DIN2_656DATA[0:7]
DIN2_656DATA[0:7] 18-D5, 21-A5
21-A5 CLK2
VDDI VSS VDDE VDDE TMODE[1] TMODE[3] TMODE[2] RESETX TMODE[0] TVPD TRST TDI TDO RTCK XSRST WE TCK TMS
EXA[0] EXA[3] EXA[4] EXA[9] EXA[10] EXA[11] EXA[12] EXA[13] EXA[14] EXA[15] EXA[16] EXA[18] EXA[19] EXA[20]
EXDI[1] EXDI[2] EXDI[5] EXDI[6] EXDI[7] EXDI[8] EXDI[9] EXDI[12] EXDI[13] EXDI[14] EXDI[15]
PLL_VSS2 PLL_VSS3 PLL_VSS4 PLL_VDD2 PLL_VDD3 PLL_VDD4
V6_I H6_I DE6_I
Y2_I[7] Y2_I[6] V2_I DE2_I H2_I CLK1N_I CLK1_I V1_I CLK2_I H1_I DE1_I
GY1_I[0]–GY1_I[7] BCB1_I[0]–BCB1_I[7] RCR1_I[0]–RCR1_I[7]
GY6_I[0]–GY6_I[11] BCB6_I[0]–BCB6_I[11] RCR6_I[0]–RCR6_I[11]
C2_I[1] C2_I[2] C2_I[3] C2_I[4] C2_I[5] C2_I[6]
U V W Y AA AB AC AD AE AF AG AH AJ AK AL AM AN AP
11 10 9 8 7 6 5 4 3 2 1
DIN1_GY[0:7] DIN1_BCB[0:7] DIN1_RCR[0:7]
from BOARD_IF_0
1-C5 CLK1
1-C5 VD1
1-C5 HD1
1-C5 DE1
DIN1_GY[0:7] 1-C5
DIN1_BCB[0:7] 1-C5
DIN1_RCR[0:7] 1-C5
V+3_3V_D4_ARIA
GND
GND_PLL2_ARIA GND_PLL3_ARIA GND_PLL4_ARIA
V+1_2V_D_ARIA_PLL3 V+1_2V_D_ARIA_PLL4
11-A6 DIN6_RCR[0:11] DIN6_RCR[0:11]
11-A6 DIN6_GY[0:11] DIN6_GY[0:11]
11-A6 DIN6_BCB[0:11] DIN6_BCB[0:11]
11-A6 CLK6
11-A6 VD6
11-A6 HD6
11-A6 DE6
from HDMI
EXD_ARIA[0:15] 19-C2 EXD_ARIA[0:15]
EXA_ARIA[0:20] 19-C2 EXA_ARIA[0:20]
EXCTRL_ARIA[0:2] 19-C2 EXCTRL_ARIA[0:2]
from/to ARIA_MEMORY
WE

MAIN ASS'Y (EU/IBD/CHN) (17/22)
ARIA_0 BLOCK

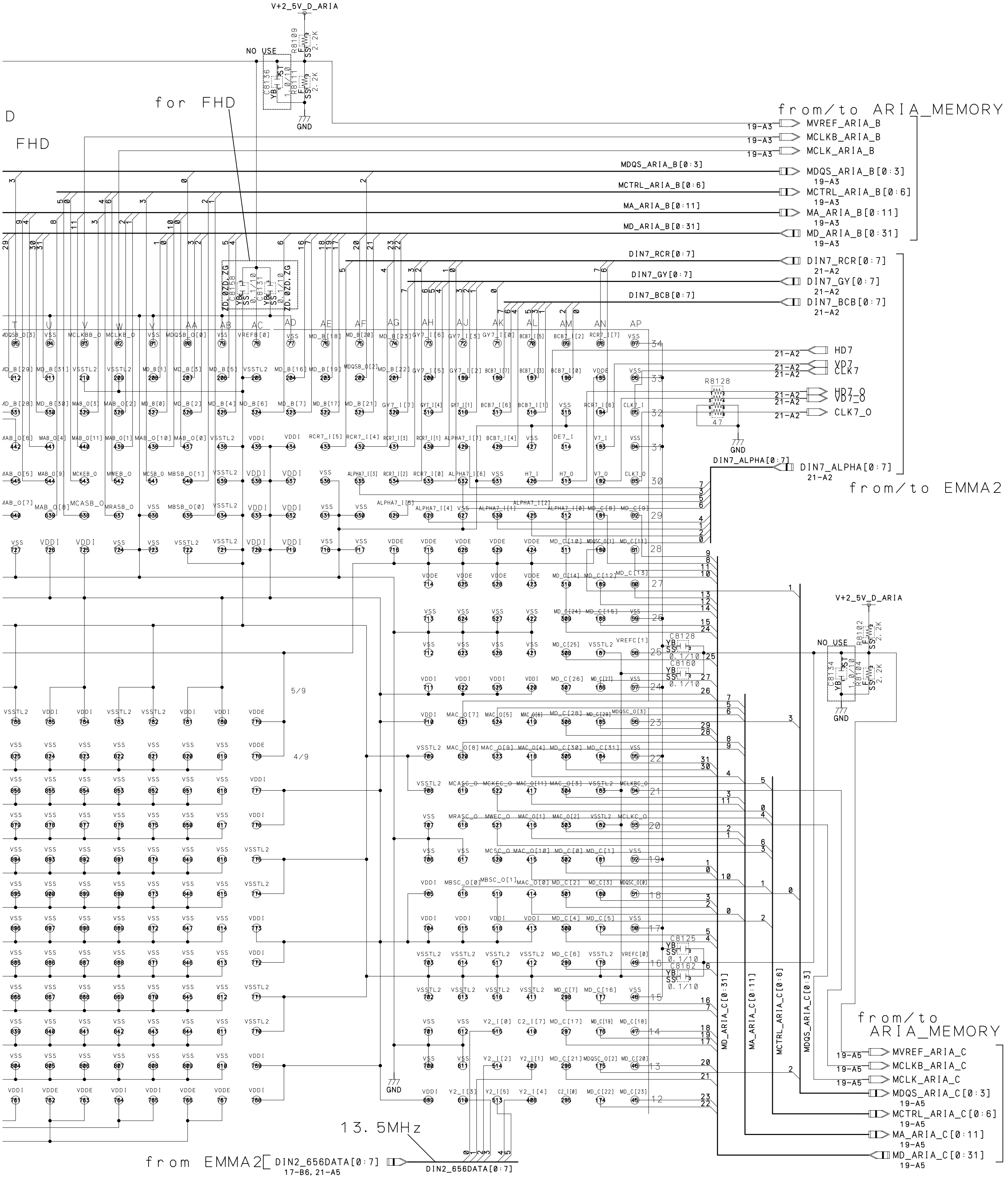
AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

9.16 MAIN ASSY (16/20) [ARIA 1 BLOCK]

ITEM	USED	VACANT	
		XGA	FHD
		AWV2523-/AWV2524-/ AWV2463-/ AWV2465-/AWV2466-/	~~AWV2464-/AWV2522-/~~ AWV2467-
C	8121-8123, 8125, 8126, 8128, 8129, 8131, 8132, 8134-8136, 8144, 8145, 8154-8162	8121-8123, 8131, 8132, 8134-8136, 8144, 8157 8158	8121-8123, 8134-8136, 8144
R	8101, 8102, 8104-8105, 8107, 8109, 8111-8113, 8124-8128, 8130	8101, 8112, 8113, 8124-8127	8101



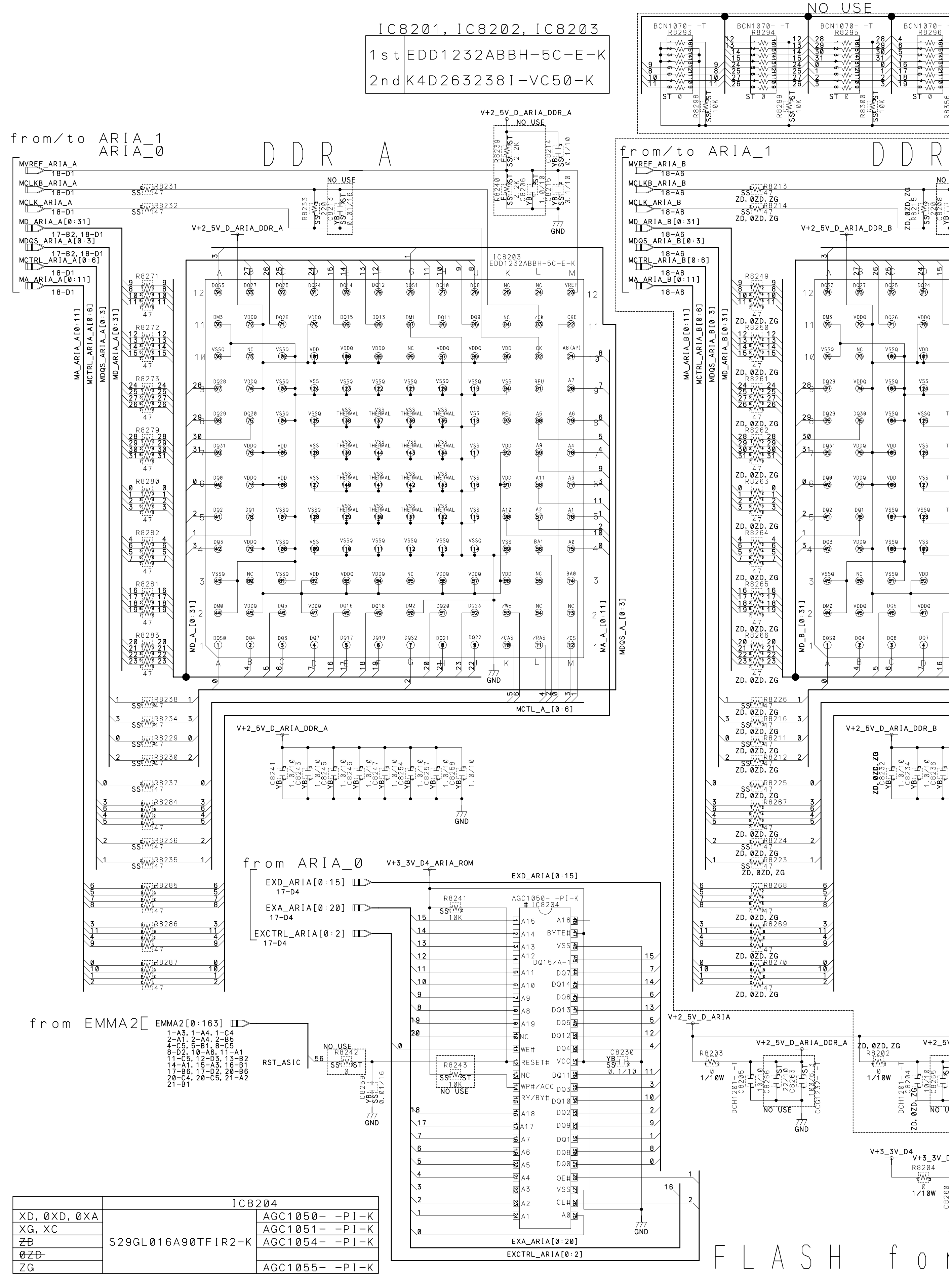
V+2_5V_D_ARIA
V+3_3V_D4_ARIA
V+VDDIO_ARIA
NO USE
R8101
1/10W
R8130
C8145
C8121
C8154
C8122
C8155
C8123
C8156
C8144
DCH1201-
GND
for FHD
R8127
R8126
R8125
R8124
ZD, 0ZD, ZG
to BOARD_IF_1
BB_O[0:9] 2-C1
GB_O[0:9] 2-C1
BA_O[0:9] 2-C1
GA_O[0:9] 2-C1
RA_O[0:9] 2-B1
RB_O[0:9] 2-C1
CLK_O 2-C1
DE_O 2-B1, 2-B3
HD_O 2-B1, 2-B3
VD_O 2-B1, 2-B3
THEATER 2-B1
R8113
R8112
C8129
C8159
C8157
C8132
C8126
C8161
YB
SS
0.1/10
V+1_2V_D_ARIA
V+2_5V_D_ARIA
V+3_3V_D4_ARIA
V+VDDIO_ARIA
R8105
R8107
2.2K
C8135
1.0/10
MDQS_ARIA_A/B/C
0:DQS0
1:DQS1
2:DQS2
3:DQS3
MCTRL_ARIA_A/B/C
0:CKE
1:BA0
2:BA1
3:/CS
4:/RAS
5:/CAS
6:/WE
from/to ARIA_MEMORY
MVREF_ARIA_A 19-A1
MCLK_ARIA_A 19-A1
MCLKB_ARIA_A 19-A1
MDQS_ARIA_A[0:3] 17-B2, 19-A1
MCTRL_ARIA_A[0:6] 19-A1
MA_ARIA_A[0:11] 19-A1
MD_ARIA_A[0:31] 17-B2, 19-A1
to ADC
CLP_AD 9-B5
HD_PLL 9-B5
7/9
6/9
8/9
9/9
GND
IC8
PD65


V+2_5V_D_ARIA
NO USE
R8109 F-W2 SS 2.2K
C8136 YB-ST 1.0/10
R8111 F-W2 SS 2.2K
GND
for FHD
D
FHD
from/to ARIA_MEMORY
19-A3 MVREF_ARIA_B
19-A3 MVCLKB_ARIA_B
19-A3 MCLK_ARIA_B
MDQS_ARIA_B[0:3]
MCTRL_ARIA_B[0:6]
MA_ARIA_B[0:11]
MD_ARIA_B[0:31]
DIN7_RCR[0:7]
DIN7_GY[0:7]
DIN7_BCB[0:7]
21-A2
C8158 ZD.0ZD.ZG YB-SS-H 0.1/10
C8131 ZD.0ZD.ZG YB-SS-H 0.1/10
T U V W Y AA AB AC AD AE AF AG AH AJ AK AL AM AN AP
34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12
21-A2 HD7
21-A2 VD7
21-A2 CLK7
R8128 47
21-A2 HD7_O
21-A2 VD7_O
21-A2 CLK7_O
GND
DIN7_ALPHA[0:7]
21-A2
from/to EMMA2
V+2_5V_D_ARIA
NO USE
R8102 F-W2 SS 2.2K
C8134 YB-ST 1.0/10
R8104 F-W2 SS 2.2K
GND
C8128 YB SS-H 0.1/10
C8160 YB SS-H 0.1/10
C8125 YB SS-H 0.1/10
C8162 YB SS-H 0.1/10
VREFC[1]
VREFC[0]
5/9
4/9
MD_ARIA_C[0:31]
MA_ARIA_C[0:11]
MCTRL_ARIA_C[0:6]
MDQS_ARIA_C[0:3]
from/to ARIA_MEMORY
19-A5 MVREF_ARIA_C
19-A5 MCLKB_ARIA_C
19-A5 MCLK_ARIA_C
MDQS_ARIA_C[0:3] 19-A5
MCTRL_ARIA_C[0:6] 19-A5
MA_ARIA_C[0:11] 19-A5
MD_ARIA_C[0:31] 19-A5
GND
13.5MHz
from EMMA2
DIN2_656DATA[0:7]
17-B6, 21-A5
IC8001
PD6568A-K

MAIN ASS'Y (EU/IBD/CHN) (18/22)
ARIA_1 BLOCK

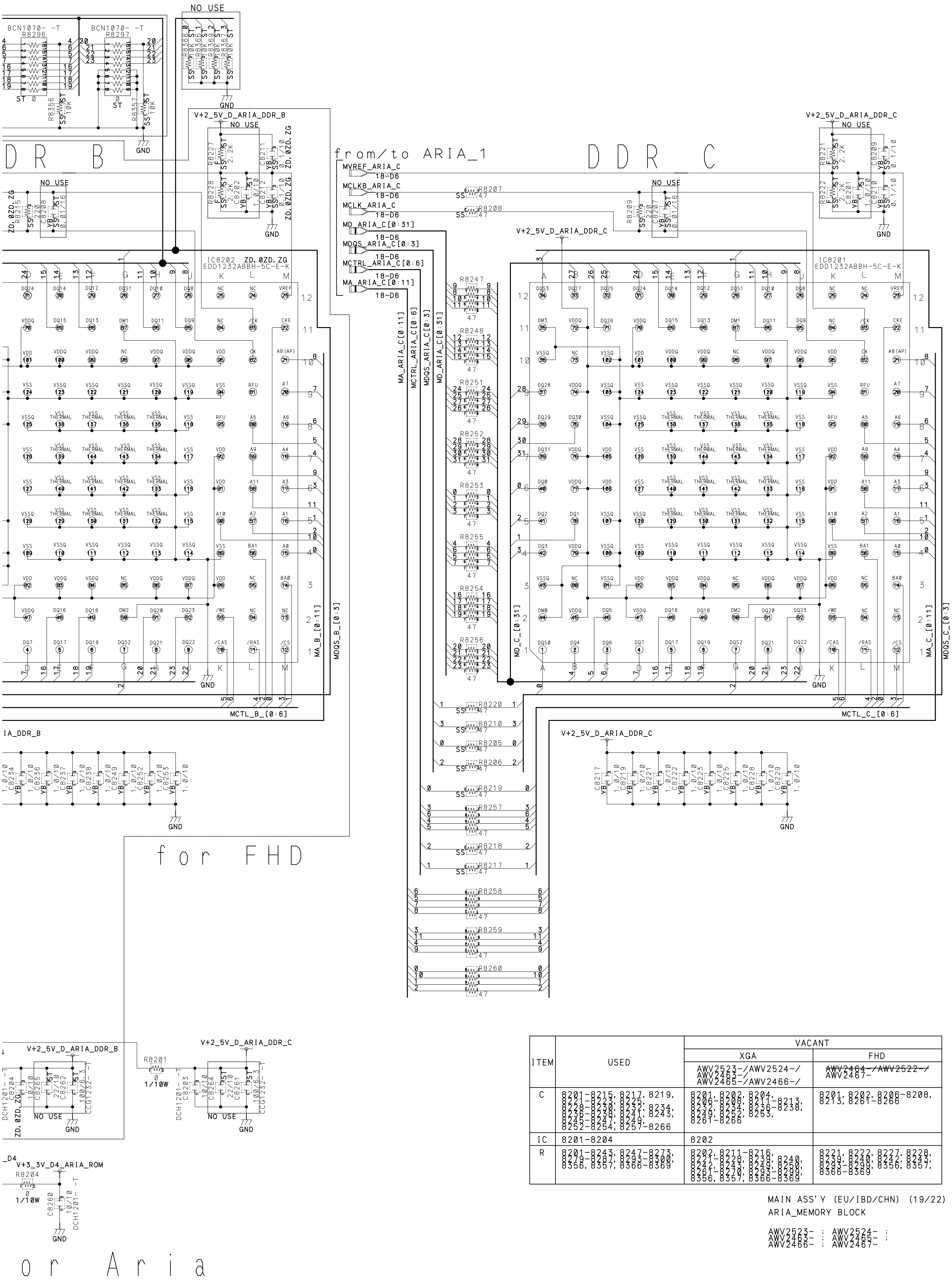
AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

9.17 MAIN ASSY (17/20) [ARIA MEMORY BLOCK]


NO USE
BCN1070- -T
R8293
R8294
R8295
R8296
R8298
R8299
R8300
R8356
ST 0
10K
from/to ARIA_1
ARIA_0
DDR_A
from/to ARIA_1
DDR
V+2_5V_D_ARIA_DDR_A
V+2_5V_D_ARIA_DDR_B
MVREF_ARIA_A
MCLKB_ARIA_A
MCLK_ARIA_A
MD_ARIA_A[0:31]
MDQS_ARIA_A[0:3]
MCTRL_ARIA_A[0:6]
MA_ARIA_A[0:11]
MVREF_ARIA_B
MCLKB_ARIA_B
MCLK_ARIA_B
MD_ARIA_B[0:31]
MDQS_ARIA_B[0:3]
MCTRL_ARIA_B[0:6]
MA_ARIA_B[0:11]
18-D1
17-B2, 18-D1
18-A6
IC8203
EDD1232ABBH-5C-E-K
MD_A_[0:31]
MA_A_[0:11]
MDQS_A_[0:3]
MCTL_A_[0:6]
MD_B_[0:31]
ZD, 0ZD, ZG
GND
from ARIA_0
V+3_3V_D4_ARIA_ROM
EXD_ARIA[0:15]
EXA_ARIA[0:20]
EXCTRL_ARIA[0:2]
17-D4
AGC1050- -PI-K
IC8204
from EMMA2
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 10-A6, 11-A1
11-C5, 12-D3, 13-B2
14-A1, 15-A3, 16-B1
17-B6, 17-D2, 20-B6
20-C4, 20-C5, 21-A2
21-B1
RST_ASIC
R8242
R8243
R8241
C8259
C8230
V+2_5V_D_ARIA
V+3_3V_D4
R8203
R8202
R8204
1/10W
DCH1201- -T
CCG1232- -T
NO USE
FLASH for

IC8201, IC8202, IC8203	
1st	EDD1232ABBH-5C-E-K
2nd	K4D263238I-VC50-K

	IC8204	
XD, 0XD, 0XA	S29GL016A90TFIR2-K	AGC1050- -PI-K
XG, XC		AGC1051- -PI-K
~~ZD~~		AGC1054- -PI-K
~~0ZD~~		
ZG		AGC1055- -PI-K


NO USE
BCN1070- -T
R8296
R8297
R8356
R8357
ST 0
SS W ST 10K
GND
V+2_5V_D_ARIA_DDR_B
V+2_5V_D_ARIA_DDR_C
D D R B
D D R C
from/to ARIA_1
MVREF_ARIA_C
MCLKB_ARIA_C
MCLK_ARIA_C
MD_ARIA_C[0:31]
MDQS_ARIA_C[0:3]
MCTRL_ARIA_C[0:6]
MA_ARIA_C[0:11]
18-D6
R8207
R8208
R8209
R8215
R8221
R8222
R8227
R8228
C8201
C8202
C8209
C8211
ZD,0ZD,ZG
IC8202 ZD,0ZD,ZG
EDD1232ABBH-5C-E-K
IC8201
EDD1232ABBH-5C-E-K
R8247
R8248
R8251
R8252
R8253
R8255
R8254
R8256
R8220
R8210
R8205
R8206
R8219
R8257
R8218
R8217
R8258
R8259
R8260
47
MA_B_[0:11]
MDQS_B_[0:3]
MCTRL_B_[0:6]
MA_C_[0:11]
MDQS_C_[0:3]
MD_C_[0:31]
MCTRL_C_[0:6]
IA_DDR_B
C8234
C8236
C8237
C8238
C8249
C8252
C8253
C8217
C8219
C8221
C8222
C8223
C8225
C8228
C8229
1.0/10
for FHD
V+2_5V_D_ARIA_DDR_B
V+2_5V_D_ARIA_DDR_C
R8201
0
1/10W
C8203
C8204
C8261
C8262
C8264
C8265
DCH1201- -T
CCG1252-
22/10
10/10
NO USE
ZD,0ZD,ZG
_D4
V+3_3V_D4_ARIA_ROM
R8204
C8260
or Aria

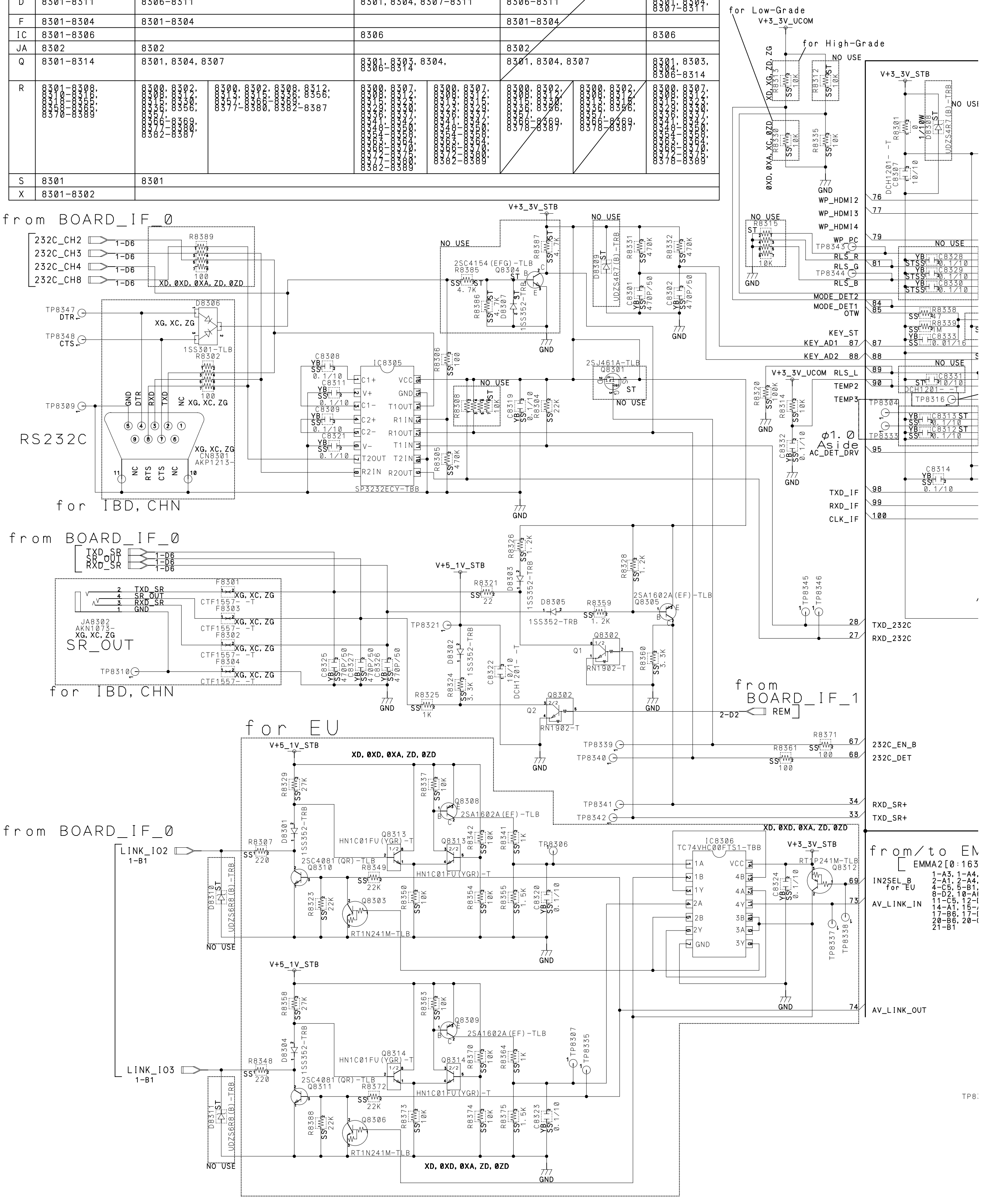
ITEM	USED	VACANT	
		XGA	FHD
		AWV2523-/AWV2524-/ AWV2463-/ AWV2465-/AWV2466-/	~~AWV2464-/AWV2522-/~~ AWV2467-
C	8201-8215, 8217, 8219, 8221-8223, 8225, 8228-8230, 8232, 8234, 8236-8238, 8241, 8243, 8245-8247, 8249, 8252-8254, 8257-8266	8201, 8202, 8204, 8206-8208, 8211-8213, 8232, 8234, 8236-8238, 8249, 8252, 8253, 8261-8266	8201, 8202, 8206-8208, 8213, 8261-8266
IC	8201-8204	8202	
R	8201-8243, 8247-8273, 8279-8287, 8293-8300, 8356, 8357, 8366-8369	8202, 8211-8216, 8221-8228, 8239, 8240, 8242, 8243, 8249, 8250, 8261-8270, 8293-8299, 8356, 8357, 8366-8369	8221, 8222, 8227, 8228, 8239, 8240, 8242, 8243, 8293-8299, 8356, 8357, 8366-8369

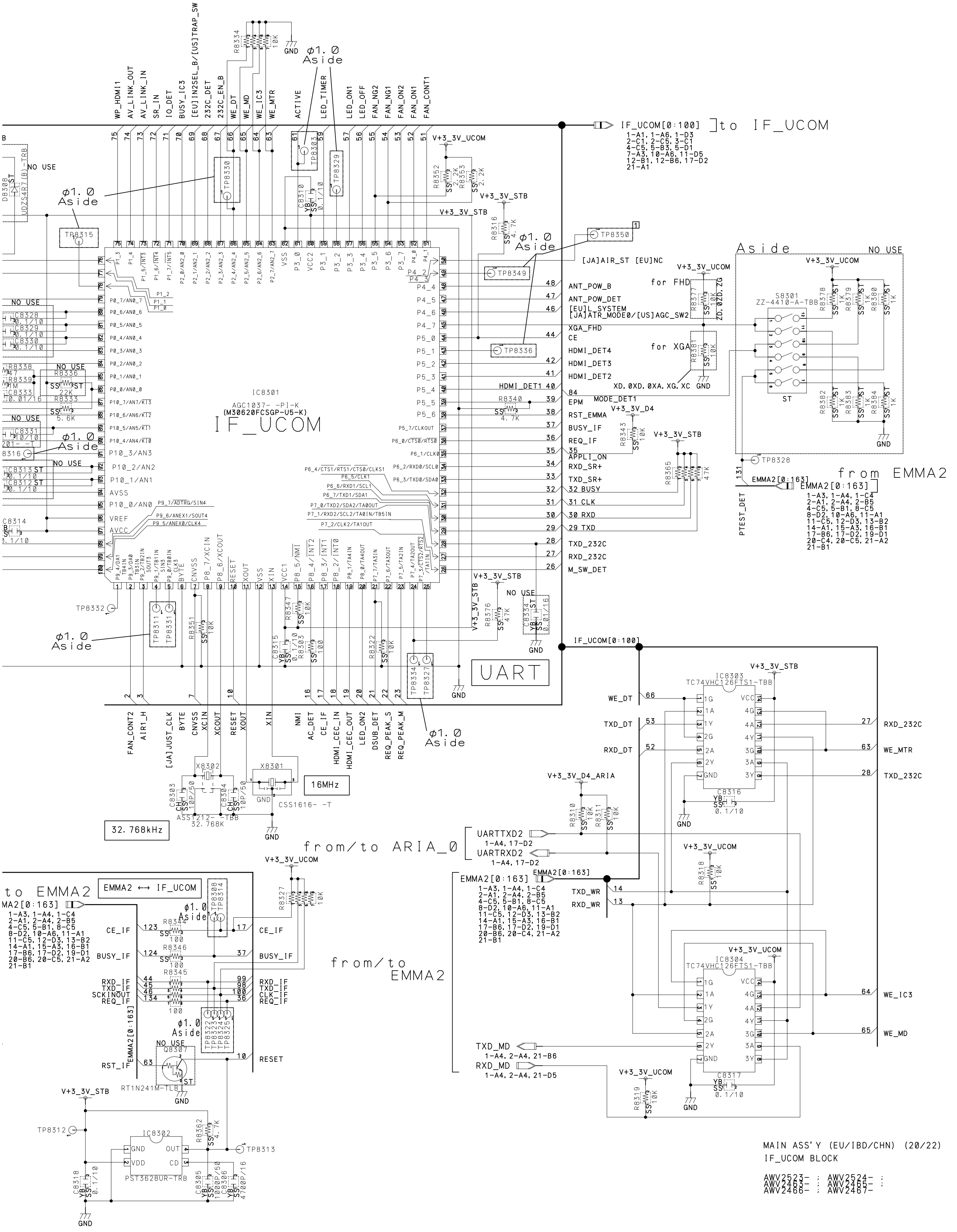
MAIN ASS'Y (EU/IBD/CHN) (19/22)
ARIA_MEMORY BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

9.18 MAIN ASSY (18/20) [IF UCOM BLOCK]

ITEM	USED	VACANT							
		AWV2523-	AWV2524-	AWV2463-	AWV2465-	AWV2466-	AWV2464-	AWV2522-	AWV2467-
C	8301-8334	8312, 8313, 8328-8331, 8334			8312, 8313, 8320, 8323, 8324, 8328-8331, 8334		8312, 8313, 8328-8331 8334		8312, 8313, 8320, 8323, 8324, 8328-8331, 8334
CN	8301	8301					8301		
D	8301-8311	8306-8311			8301, 8304, 8307-8311		8306-8311		8301, 8304, 8307-8311
F	8301-8304	8301-8304					8301-8304		
IC	8301-8306				8306				8306
JA	8302	8302					8302		
Q	8301-8314	8301, 8304, 8307			8301, 8303, 8304, 8306-8314		8301, 8304, 8307		8301, 8303, 8304, 8306-8314
R	8301-8308, 8310-8316, 8318-8355, 8358-8365, 8370-8389	8300, 8302, 8308, 8312, 8315, 8330, 8336, 8356, 8357, 8366-8369, 8377-8380, 8382-8387	8300, 8302, 8308, 8312, 8313, 8315, 8336, 8356, 8357, 8366-8369, 8377-8380, 8382-8387		8300, 8307, 8308, 8312, 8315, 8323, 8329, 8330, 8336, 8337, 8341, 8342, 8348-8350, 8354-8358, 8363, 8364, 8366-8370, 8372-8375, 8377-8380, 8382-8389	8300, 8307, 8308, 8312, 8313, 8315, 8323, 8329, 8336, 8337, 8341, 8342, 8348-8350, 8354-8358, 8363, 8364, 8366-8370, 8372-8380, 8382-8389	8300, 8302, 8308, 8312, 8315, 8330, 8336, 8356, 8357, 8366-8369, 8378-8387	8300, 8302, 8308, 8312, 8313, 8315, 8336, 8356, 8357, 8366-8369, 8378-8387	8300, 8307, 8308, 8312, 8315, 8323, 8329, 8330, 8336, 8337, 8341, 8342, 8348-8350, 8354-8358, 8363, 8364, 8366-8370, 8372-8375, 8378-8389
S	8301	8301							
X	8301-8302								

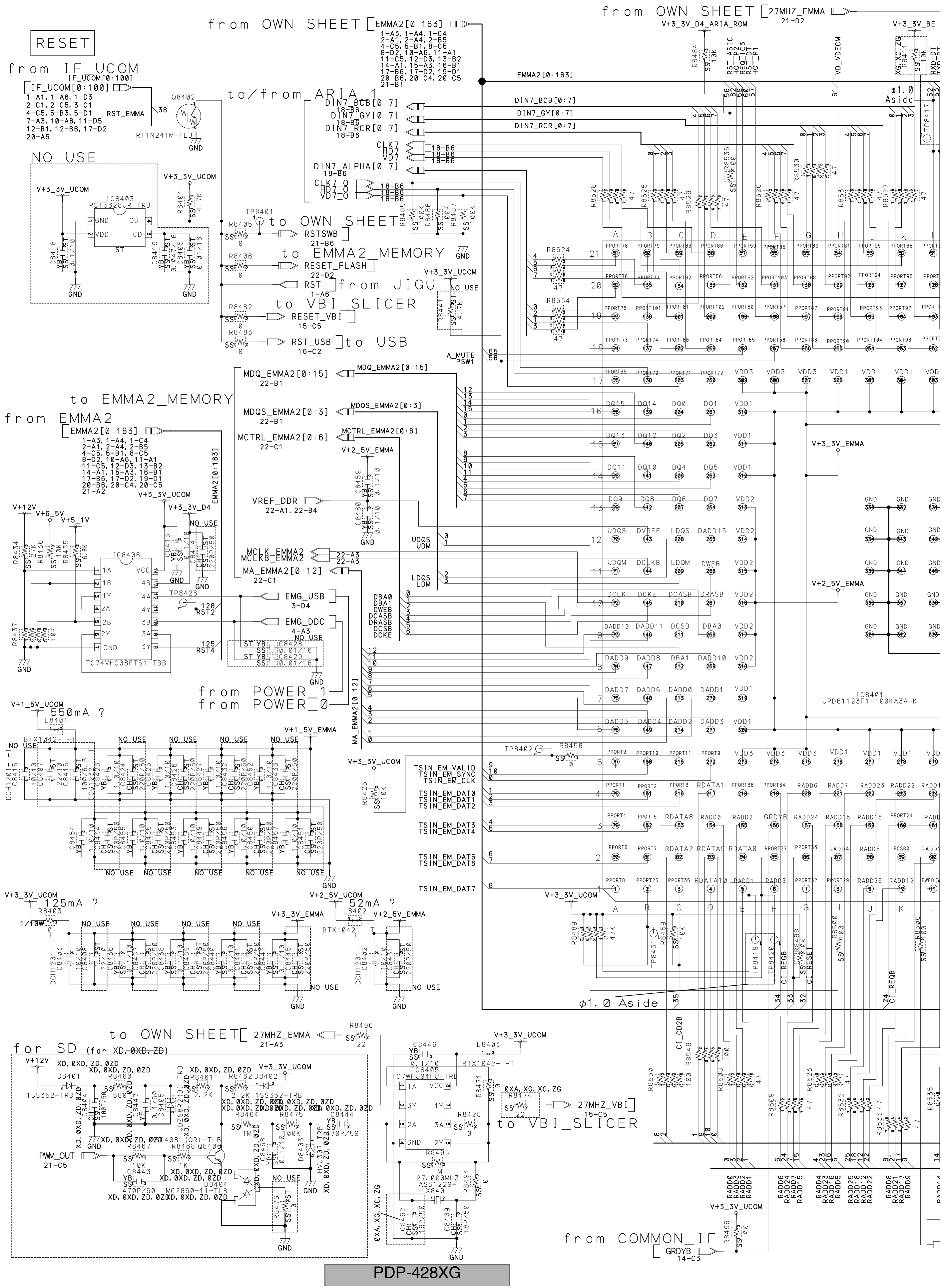

for Low-Grade
V+3_3V_UCOM
for High-Grade
NO USE
V+3_3V_STB
from BOARD_IF_0
232C_CH2
232C_CH3
232C_CH4
232C_CH8
1-D6
R8389
XD, 0XD, 0XA, ZD, 0ZD
TP8347
DTR
TP8348
CTS
D8306
XG, XC, ZG
1SS301-TLB
R8302
TP8309
GND
DTR
RXD
TXD
NC
RS232C
NC
RTS
CTS
NC
CN8301
AKP1213-
for IBD, CHN
C8308
C8311
C8309
C8321
IC8305
C1+
V+
C1-
C2+
C2-
V-
T2OUT
R2IN
VCC
GND
T1OUT
R1IN
R1OUT
T1IN
T2IN
R2OUT
SP3232ECY-TBB
R8306
R8308
R8305
C8319
R8304
2SC4154(EFG)-TLB
R8385
Q8304
R8387
R8386
D8307
1SS352-TRB
D8309
UDZS4R7(B)-TRB
R8331
R8332
C8301
C8302
470K
470P/50
2SJ461A-TLB
Q8301
ST
from BOARD_IF_0
TXD_SR
SR_OUT
RXD_SR
F8301
F8302
F8303
F8304
CTF1557- -T
JA8302
AKN1073-
SR_OUT
TP8310
for IBD, CHN
C8325
C8327
C8326
C8324
V+5_1V_STB
R8321
D8303
R8326
R8328
D8305
R8359
2SA1602A(EF)-TLB
Q8305
TP8321
D8302
C8322
DCH1201- -T
R8324
Q8302
RN1902-T
Q1
Q2
R8360
R8325
TP8345
TP8346
from BOARD_IF_1
REM
2-D2
for EU
R8329
D8301
R8307
R8337
Q8308
Q8313
HN1C01FU(YGR)-T
2SC4081(QR)-TLB
Q8310
R8349
R8323
Q8303
RT1N241M-TLB
R8350
R8342
R8341
R8354
R8355
C8320
TP8306
IC8306
TC74VHC00FTS1-TBB
1A
1B
1Y
2A
2B
2Y
GND
VCC
4B
4A
4Y
3B
3A
3Y
RT1P241M-TLB
Q8312
TP8337
TP8338
TP8339
TP8340
TP8341
TP8342
R8361
R8371
from BOARD_IF_0
LINK_IO2
LINK_IO3
1-B1
D8310
D8311
UDZS6R8(B)-TRB
NO USE
R8358
D8304
R8348
R8363
Q8309
Q8314
Q8311
R8372
R8388
Q8306
R8373
R8370
R8374
R8364
R8375
C8323
TP8307
TP8335
R8313
R8312
R8330
R8335
R8301
C8307
D8308
UDZS4R7(B)-TRB
DCH1201- -T
WP_HDMI2
WP_HDMI3
WP_HDMI4
WP_PC
R8315
TP8343
RLS_R
RLS_G
TP8344
RLS_B
MODE_DET2
MODE_DET1
OTW
KEY_ST
KEY_AD1
KEY_AD2
V+3_3V_UCOM
RLS_L
TEMP2
TEMP3
R8320
R8314
C8332
φ1.0 Aside
AC_DET_DRV
TXD_IF
RXD_IF
CLK_IF
C8328
C8329
C8330
R8338
R8339
C8333
C8331
TP8304
TP8316
C8313
C8312
TP8333
C8314
76
77
79
81
84
85
87
88
89
90
95
98
99
100
28
27
67
68
34
33
69
73
74
TXD_232C
RXD_232C
232C_EN_B
232C_DET
RXD_SR+
TXD_SR+
from/to EM
EMMA2[0:163
IN2SEL_B for EU
AV_LINK_IN
AV_LINK_OUT
XD, 0XD, 0XA, ZD, 0ZD


IF_UCOM[0:100]]to IF_UCOM
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
4-C5, 5-B3, 5-D1
7-A3, 10-A6, 11-D5
12-B1, 12-B6, 17-D2
21-A1
WP_HDMI1
AV_LINK_OUT
AV_LINK_IN
SR_IN
IO_DET
BUSY_IC3
[EU]IN2SEL_B/[US]TRAP_SW
232C_DET
232C_EN_B
WE_DT
WE_MD
WE_IC3
WE_MTR
ACTIVE
LED_TIMER
LED_ON1
LED_OFF
FAN_NG2
FAN_NG1
FAN_ON2
FAN_ON1
FAN_CONT1
R8334
10K
GND
φ1.0
Aside
NO USE
D8308
UDZS4R7(B)-TRB
TP8315
TP8330
TP8303
TP8329
C8310
0.1/10
V+3_3V_UCOM
R8352
R8353
2.2K
V+3_3V_STB
R8316
4.7K
TP8350
TP8349
TP8336
[JA]AIR_ST [EU]NC
ANT_POW_B
ANT_POW_DET
[EU]L_SYSTEM
[JA]ATR_MODE0/[US]AGC_SW2
XGA_FHD
CE
HDMI_DET4
HDMI_DET3
HDMI_DET2
HDMI_DET1
EPM
MODE_DET1
RST_EMMA
BUSY_IF
REQ_IF
APPLI_ON
RXD_SR+
TXD_SR+
32 BUSY
31 CLK
30 RXD
29 TXD
TXD_232C
RXD_232C
M_SW_DET
R8340
4.7K
V+3_3V_D4
R8343
10K
R8365
47K
for FHD
for XGA
R8377
R8381
10K
ZD, 0ZD, ZG
XD, 0XD, 0XA, XG, XC
Aside
NO USE
S8301
ZZ-4410-A-TBB
R8378
R8379
R8380
R8382
R8383
R8384
1K
ST
TP8328
PTEST_DET
EMMA2[0:163]
from EMMA2
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 10-A6, 11-A1
11-C5, 12-D3, 13-B2
14-A1, 15-A3, 16-B1
17-B6, 17-D2, 19-D1
20-C4, 20-C5, 21-A2
21-B1
IC8301
AGC1037- -PI-K
(M30620FCSGP-U5-K)
IF_UCOM
P1_3
P1_4
P1_5/INT3
P1_6/INT4
P1_7/INT5
P2_0/AN2_0
P2_1/AN2_1
P2_2/AN2_2
P2_3/AN2_3
P2_4/AN2_4
P2_5/AN2_5
P2_6/AN2_6
P2_7/AN2_7
VSS
P3_0
VCC2
P3_1
P3_2
P3_3
P3_4
P3_5
P3_6
P3_7
P4_0
P4_1
P4_2
P4_3
P4_4
P4_5
P4_6
P4_7
P5_0
P5_1
P5_2
P5_3
P5_4
P5_5
P5_6
P5_7/CLKOUT
P6_0/CTS0/RTS0
P6_1/CLK0
P6_2/RXD0/SCL0
P6_3/TXD0/SDA0
P6_4/CTS1/RTS1/CTS0/CLKS1
P6_5/CLK1
P6_6/RXD1/SCL1
P6_7/TXD1/SDA1
P7_0/TXD2/SDA2/TA0OUT
P7_1/RXD2/SCL2/TA0IN/TB5IN
P7_2/CLK2/TA1OUT
P1_2
P1_1
P1_0
P0_7/AN0_7
P0_6/AN0_6
P0_5/AN0_5
P0_4/AN0_4
P0_3/AN0_3
P0_2/AN0_2
P0_1/AN0_1
P0_0/AN0_0
P10_7/AN7/KI3
P10_6/AN6/KI2
P10_5/AN5/KI1
P10_4/AN4/KI0
P10_3/AN3
P10_2/AN2
P10_1/AN1
AVSS
P10_0/AN0
VREF
AVCC
P9_7/ADTRG/SIN4
P9_6/ANEX1/SOUT4
P9_5/ANEX0/CLK4
CNVSS
P8_7/XCIN
P8_6/XCOUT
RESET
XOUT
VSS
XIN
VCC1
P8_5/NMI
P8_4/INT2
P8_3/INT1
P8_2/INT0
P8_1/TA4IN
P8_0/TA4OUT
P7_7/TA3IN
P7_6/TA3OUT
P7_5/TA2IN
P7_4/TA2OUT
P7_3/CTS2/RTS2
BYTE
NO USE
C8328
C8329
C8330
0.1/10
R8338
R8339
C8333
R8336
22K
R8333
5.6K
C8331
R8316
C8313
C8312
C8314
TP8332
TP8311
TP8331
R8351
10K
R8347
10K
C8315
0.1/10
R8305
100
R8322
10K
TP8334
TP8327
R8376
47K
C8334
0.01/16
UART
IF_UCOM[0:100]
FAN_CONT2
AIR1_H
[JA]JUST_CLK
BYTE
CNVSS
XCIN
XCOUT
RESET
XOUT
XIN
NMI
AC_DET
CE_IF
HDMI_CEC_IN
HDMI_CEC_OUT
LED_ON2
DSUB_DET
REQ_PEAK_S
REQ_PEAK_M
X8302
X8301
C8303
C8304
10P/50
ASS1212- -TBB
32.768K
32.768kHz
16MHz
CSS1616- -T
IC8303
TC74VHC126FTS1-TBB
1G
1A
1Y
2G
2A
2Y
GND
VCC
4G
4A
4Y
3G
3A
3Y
C8316
0.1/10
WE_DT
TXD_DT
RXD_DT
RXD_232C
WE_MTR
TXD_232C
V+3_3V_D4_ARIA
R8310
R8311
10K
UARTTXD2
1-A4, 17-D2
UARTRXD2
1-A4, 17-D2
from/to ARIA_0
R8318
10K
TXD_WR
RXD_WR
IC8304
TC74VHC126FTS1-TBB
C8317
0.1/10
WE_IC3
WE_MD
TXD_MD
1-A4, 2-A4, 21-B6
RXD_MD
1-A4, 2-A4, 21-D5
R8319
10K
to EMMA2
EMMA2 ↔ IF_UCOM
TP8308
TP8314
R8327
10K
R8344
R8346
R8345
100
CE_IF
BUSY_IF
RXD_IF
TXD_IF
SCKINOUT
REQ_IF
CLK_IF
from/to EMMA2
TP8322
TP8323
TP8324
TP8325
NO USE
Q8307
RT1N241M-TLB
RST_IF
RESET
V+3_3V_STB
TP8312
IC8302
PST3628UR-TRB
GND
VDD
OUT
CD
R8362
4.7K
TP8313
C8318
0.1/10
C8305
1000P/50
C8306
4700P/16

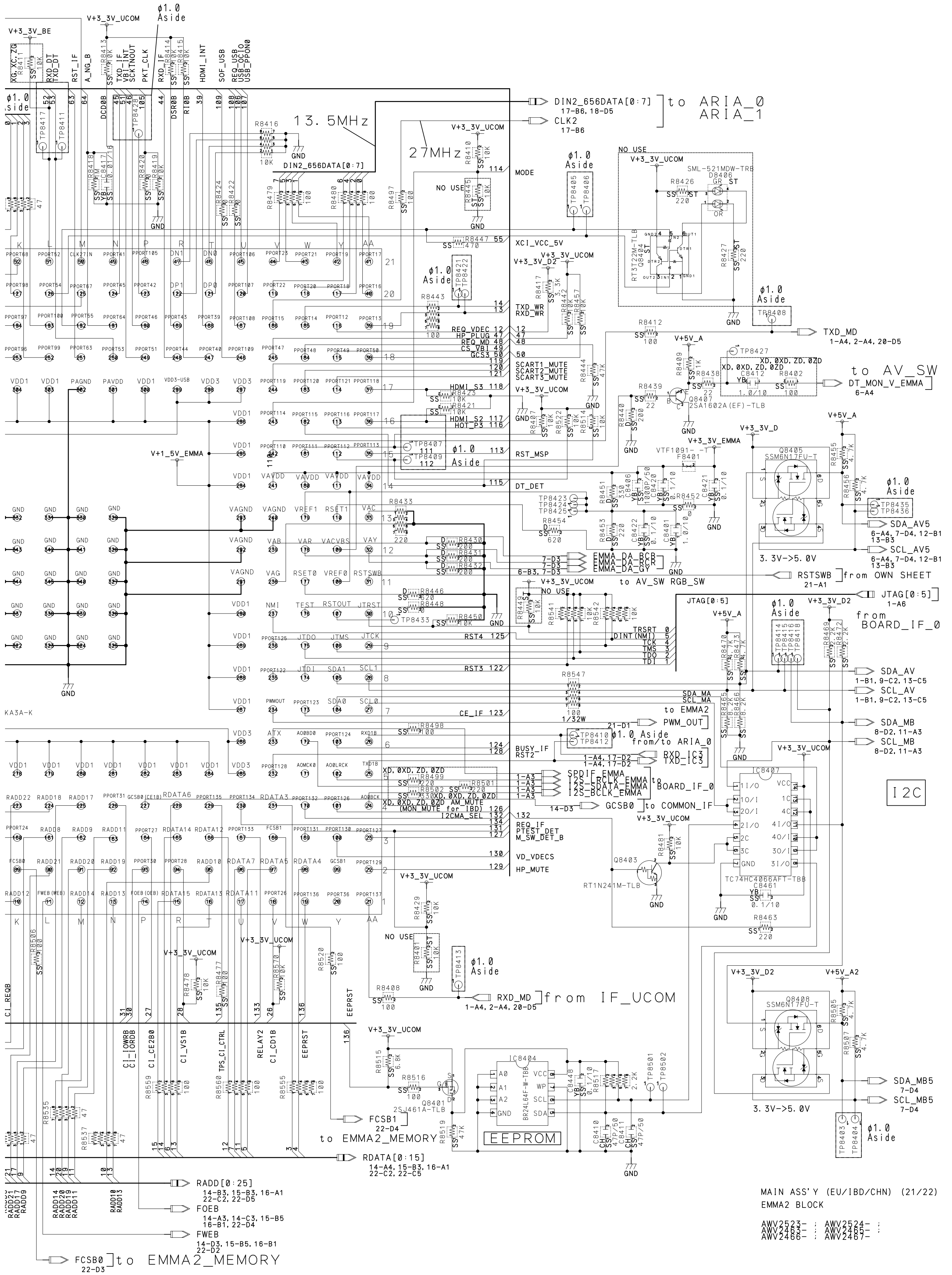
MAIN ASS'Y (EU/IBD/CHN) (20/22)
IF_UCOM BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

9.19 MAIN ASSY (19/20) [EMMA2 BLOCK]


RESET
from IF_UCOM
IF_UCOM[0:100]
RST_EMMA
Q8402
RT1N241M-TLB
NO USE
IC8403
PST3628UR-TRB
from OWN SHEET
EMMA2[0:163]
to/from ARIA_1
DIN7_BCB[0:7]
DIN7_GY[0:7]
DIN7_RCR[0:7]
CLK7
HD7
VD7
DIN7_ALPHA[0:7]
CLK7_O
HD7_O
VD7_O
to OWN SHEET
RSTSWB
21-B6
TP8401
to EMMA2_MEMORY
RESET_FLASH
22-D2
RST
from JIGU
1-A6
to VBI_SLICER
RESET_VBI
15-C5
RST_USB
to USB
16-C2
A_MUTE
PSW1
MDQ_EMMA2[0:15]
MDQS_EMMA2[0:3]
MCTRL_EMMA2[0:6]
22-B1
22-C1
V+2_5V_EMMA
VREF_DDR
22-A1, 22-B4
MCLK_EMMA2
MCLKB_EMMA2
22-A3
MA_EMMA2[0:12]
UDQS
UDM
LDQS
LDM
DBA0
DBA1
DWEB
DCASB
DRASB
DCSB
DCKE
to EMMA2_MEMORY
from EMMA2
IC8406
TC74VHC08FTS1-TBB
TP8426
EMG_USB
3-D4
EMG_DDC
4-A3
RST2
RST4
from POWER_1
from POWER_0
V+1_5V_UCOM
550mA ?
L8401
BTX1042- -T
V+1_5V_EMMA
NO USE
V+3_3V_UCOM
125mA ?
R8403
1/10W
V+2_5V_UCOM
52mA ?
L8402
V+3_3V_EMMA
V+2_5V_EMMA
TP8402
R8458
TSIN_EM_VALID
TSIN_EM_SYNC
TSIN_EM_CLK
TSIN_EM_DAT0
TSIN_EM_DAT1
TSIN_EM_DAT2
TSIN_EM_DAT3
TSIN_EM_DAT4
TSIN_EM_DAT5
TSIN_EM_DAT6
TSIN_EM_DAT7
IC8401
UPD61123F1-100KA3A-K
φ1.0 Aside
from OWN SHEET
27MHZ_EMMA
21-D2
V+3_3V_D4_ARIA_ROM
V+3_3V_BE
RST_ASIC
HOT_PC3
RST_DT
HOT_P1
VD_VDECM
TP8417
CI_REQB
CI_RESET
CI_CD2B
TP8431
TP8419
TP8420
to OWN SHEET
27MHZ_EMMA
21-A3
R8496
for SD (for XD, 0XD, ZD)
V+12V
D8401
1SS352-TRB
D8402
D8405
UDZS8R2(B)-TRB
Q8400
2SC4081(QR)-TLB
D8404
MC2850-11-TLB
PWM_OUT
21-C5
IC8405
TC7WHU04FU-TRB
L8403
X8401
27.000MHZ
ASS1220-
27MHZ_VBI
15-C5
to VBI_SLICER
from COMMON_IF
GRDYB
14-C3
GND

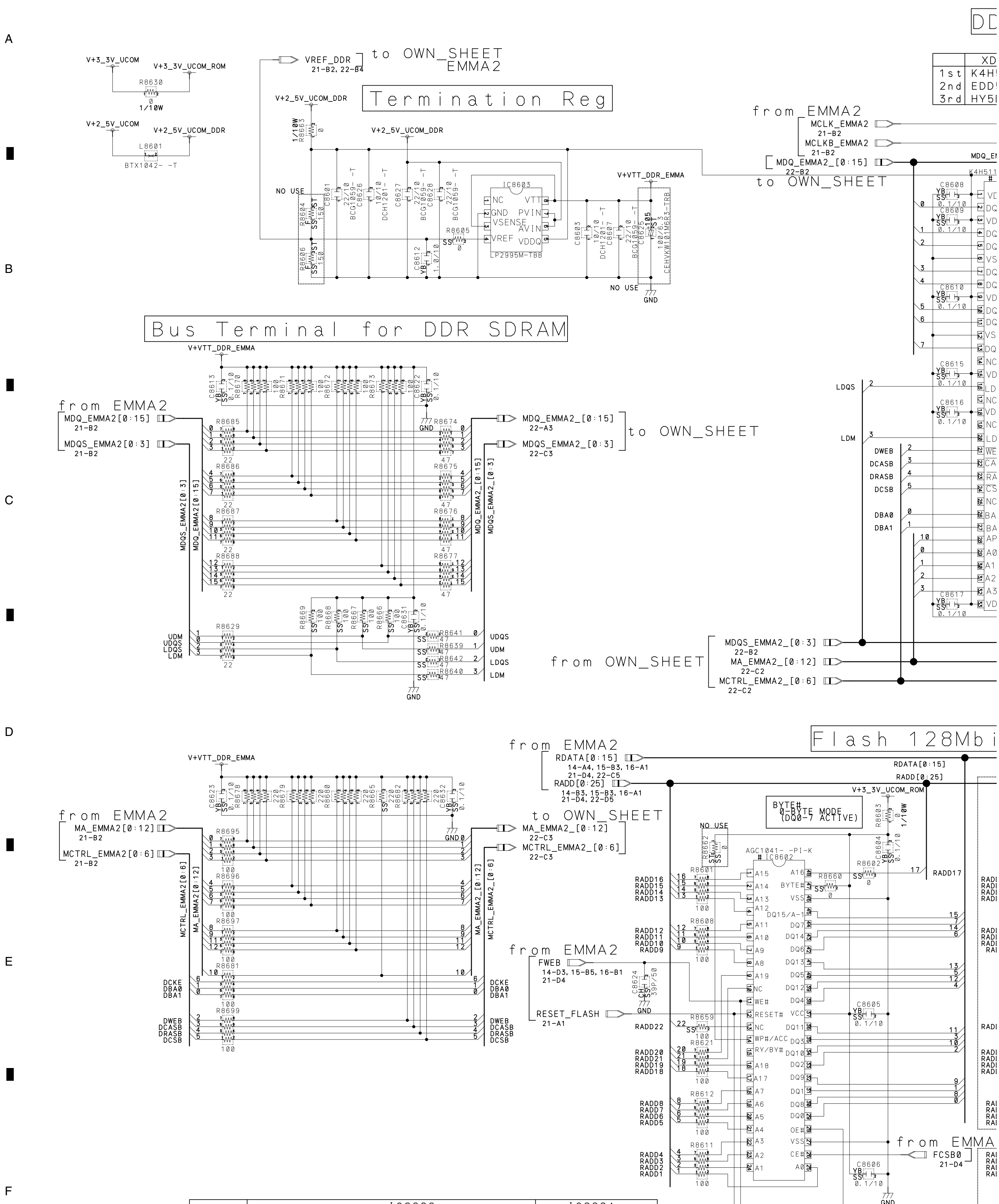
84


V+3_3V_BE
V+3_3V_UCOM
φ1.0 Aside
DIN2_656DATA[0:7]
17-B6, 18-D5
CLK2
17-B6
to ARIA_0 ARIA_1
13.5MHz
27MHz
MODE
NO USE
SML-521MDW-TRB
D8406
RT3T22M-TLB
Q8404
XCI_VCC_5V
V+3_3V_D2
TXD_WR
RXD_WR
REQ_VDEC
HP_PLUG
REQ_MD
CS_VBI
GCS3
SCART1_MUTE
SCART2_MUTE
SCART3_MUTE
HDMI_S3
HDMI_S2
HOT_P3
RST_MSP
DT_DET
TXD_MD
1-A4, 2-A4, 20-D5
V+5V_A
Q8407
2SA1602A(EF)-TLB
to AV_SW
DT_MON_V_EMMA
6-A4
V+3_3V_D
V+3_3V_EMMA
VTF1091--T
F8401
Q8405
SSM6N17FU-T
SDA_AV5
SCL_AV5
6-A4, 7-D4, 12-B1
13-B3
3.3V->5.0V
EMMA_DA_BCB
EMMA_DA_RCR
EMMA_DA_GY
7-D3
6-B3, 7-D3
to AV_SW RGB_SW
RSTSWB
from OWN SHEET
21-A1
JTAG[0:5]
1-A6
from BOARD_IF_0
TRSRT
DINT(NMI)
TCK
TMS
TDO
TDI
RST4
RST3
SDA_MA
SCL_MA
SDA_AV
SCL_AV
1-B1, 9-C2, 13-C5
SDA_MB
SCL_MB
8-D2, 11-A3
CE_IF
to EMMA2
PWM_OUT
21-D1
from/to ARIA_0
BUSY_IF
RST2
RXD_IC3
TXD_IC3
1-A4, 17-D2
SPDIF_EMMA
I2S_LRCLK_EMMA
I2S_SDATA_EMMA
I2S_BCLK_EMMA
to BOARD_IF_0
GCSB0
14-D3
to COMMON_IF
I2CMA_SEL
REQ_IF
PTEST_DET
M_SW_DET_B
VD_VDECS
HP_MUTE
IC8407
TC74HC4066AFT-TBB
I2C
Q8403
RT1N241M-TLB
RXD_MD
from IF_UCOM
1-A4, 2-A4, 20-D5
V+5V_A2
Q8408
SSM6N17FU-T
SDA_MB5
SCL_MB5
7-D4
3.3V->5.0V
IC8404
BR24L64F-W-TBB
EEPROM
Q8401
2SJ461A-TLB
FCSB1
22-D4
to EMMA2_MEMORY
RDATA[0:15]
14-A4, 15-B3, 16-A1
22-C2, 22-C5
RADD[0:25]
14-B3, 15-B3, 16-A1
22-C2, 22-D5
FOEB
14-A3, 14-C3, 15-B5
16-B1, 22-D4
FWEB
14-D3, 15-B5, 16-B1
22-D2
FCSB0
22-D3
to EMMA2_MEMORY
KA3A-K
CI_REQB
CI_IOWRB
CI_IORDB
CI_CE2B0
CI_VS1B
TPS_CI_CTRL
RELAY2
CI_CD1B
EEPRST
GND

MAIN ASS'Y (EU/IBD/CHN) (21/22)
EMMA2 BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

9.20 MAIN ASSY (20/20) [EMMA2 MEMORY BLOCK]

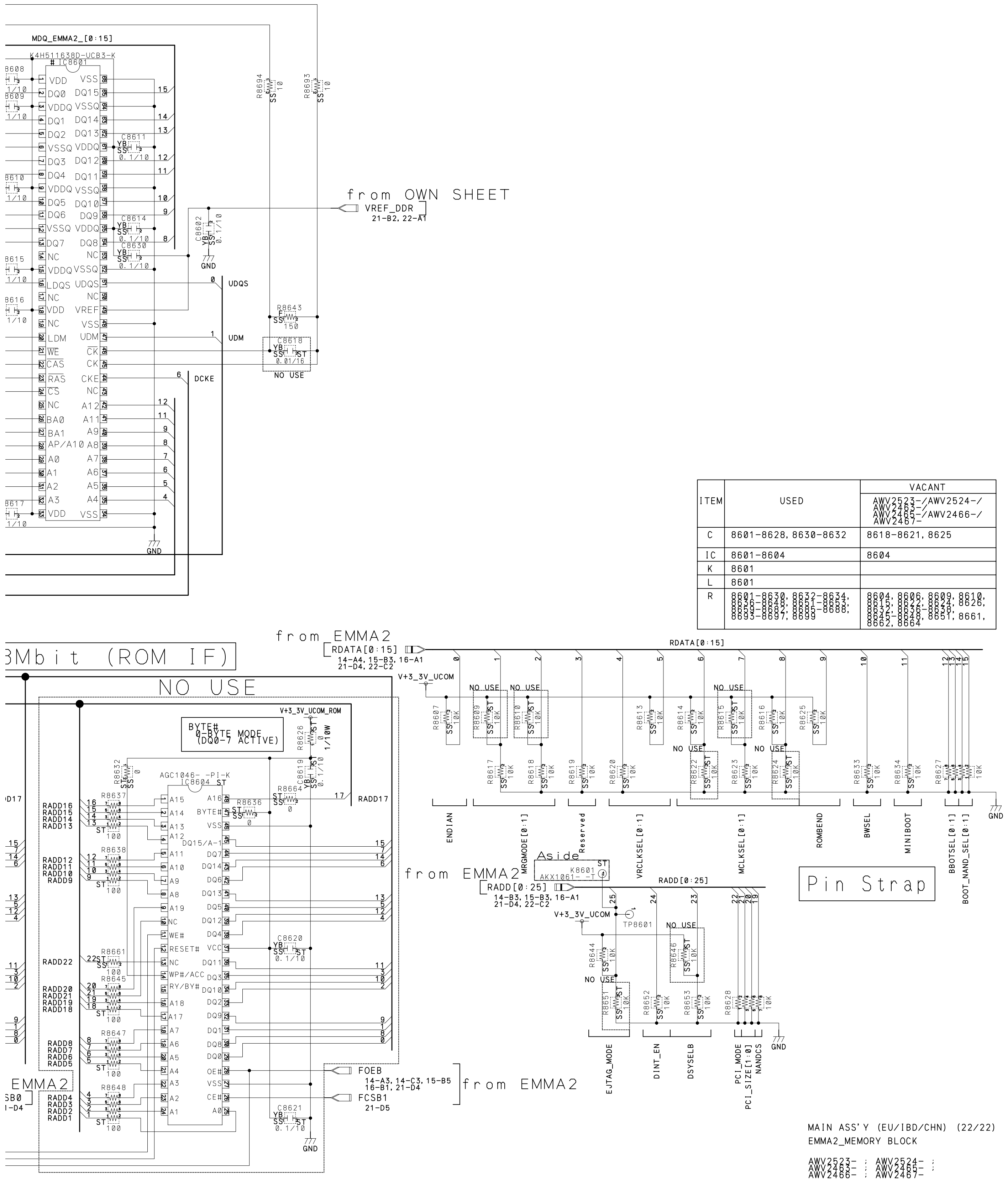

A
B
C
D
E
F
V+3_3V_UCOM
V+3_3V_UCOM_ROM
R8630
0
1/10W
V+2_5V_UCOM
V+2_5V_UCOM_DDR
L8601
BTX1042- -T
VREF_DDR
21-B2, 22-B4
to OWN_SHEET
EMMA2
Termination Reg
V+2_5V_UCOM_DDR
R8663
1/10W
NO USE
R8604
R8606
150
C8601
C8626
BCG1059- -T
22/10
C8627
DCH1201- -T
10/10
C8628
C8612
1.0/10
IC8603
NC
GND
VSENSE
VREF
VTT
PVIN
AVIN
VDDQ
LP2995M-TBB
R8605
V+VTT_DDR_EMMA
C8603
C8607
C8625
C8605
100/6.3
CEHVKW101M6R3-TRB
NO USE
GND
Bus Terminal for DDR SDRAM
V+VTT_DDR_EMMA
C8613
0.1/10
R8670
R8671
R8672
R8673
C8622
from EMMA2
MDQ_EMMA2[0:15]
21-B2
MDQS_EMMA2[0:3]
21-B2
R8685
R8686
R8687
R8688
22
R8674
R8675
R8676
R8677
47
MDQ_EMMA2_[0:15]
22-A3
MDQS_EMMA2_[0:3]
22-C3
to OWN_SHEET
MDQS_EMMA2[0:3]
MDQS_EMMA2_[0:3]
MDQ_EMMA2_[0:15]
R8669
R8668
R8667
R8666
C8631
R8629
UDM
UDQS
LDQS
LDM
R8641
R8639
R8642
R8640
GND
DD
XD
1st K4H
2nd EDD
3rd HY5
from EMMA2
MCLK_EMMA2
21-B2
MCLKB_EMMA2
21-B2
MDQ_EMMA2_[0:15]
22-B2
to OWN_SHEET
K4H511
C8608
C8609
C8610
C8615
C8616
C8617
0.1/10
LDQS
LDM
DWEB
DCASB
DRASB
DCSB
DBA0
DBA1
from OWN_SHEET
MDQS_EMMA2_[0:3]
22-B2
MA_EMMA2_[0:12]
22-C2
MCTRL_EMMA2_[0:6]
22-C2
V+VTT_DDR_EMMA
C8623
R8678
R8679
R8680
R8681
R8682
C8632
from EMMA2
MA_EMMA2[0:12]
21-B2
MCTRL_EMMA2[0:6]
21-B2
to OWN_SHEET
MA_EMMA2_[0:12]
22-C3
MCTRL_EMMA2_[0:6]
22-C3
R8695
R8696
R8697
R8698
R8699
100
220
MCTRL_EMMA2[0:6]
MA_EMMA2[0:12]
MA_EMMA2_[0:12]
MCTRL_EMMA2_[0:6]
DCKE
DBA0
DBA1
DWEB
DCASB
DRASB
DCSB
from EMMA2
RDATA[0:15]
14-A4, 15-B3, 16-A1
21-D4, 22-C5
RADD[0:25]
14-B3, 15-B3, 16-A1
21-D4, 22-D5
Flash 128Mbi
RDATA[0:15]
RADD[0:25]
V+3_3V_UCOM_ROM
BYTE#
0-BYTE MODE
(DQ0-7 ACTIVE)
R8603
1/10W
C8604
NO USE
R8662
AGC1041- -PI-K
IC8602
R8601
R8608
R8660
R8602
RADD17
from EMMA2
FWEB
14-D3, 15-B5, 16-B1
21-D4
C8624
39P/50
RESET_FLASH
21-A1
RADD22
R8659
R8621
R8612
R8611
C8605
C8606
from EMMA
FCSB0
21-D4
GND
A15 A14 A13 A12 A11 A10 A9 A8 A19 NC WE# RESET# NC WP#/ACC RY/BY# A18 A17 A7 A6 A5 A4 A3 A2 A1
A16 BYTE# VSS DQ15/A-1 DQ7 DQ14 DQ6 DQ13 DQ5 DQ12 DQ4 VCC DQ11 DQ3 DQ10 DQ2 DQ9 DQ1 DQ8 DQ0 OE# VSS CE# A0
RADD16 RADD15 RADD14 RADD13 RADD12 RADD11 RADD10 RADD9 RADD20 RADD21 RADD19 RADD18 RADD8 RADD7 RADD6 RADD5 RADD4 RADD3 RADD2 RADD1

	IC8602		IC8604
XD, 0XD	S29GL064A90TFIR90-K	AGC1041- -PI-K	NO USE
0XA	S29GL032A90TFIR4-K	AGC1040- -PI-K	
XG, XC	S29GL032A90TFIR4-K	AGC1042- -PI-K	
ZG		AGC1047- -PI-K	

DDR 512Mbit (UMI)

IC8601

	XD, 0XD, XG, XC, ZG	0XA
st	K4H511638D-UCB3-K	K4H561638H-UCB3-K
nd	EDD5116AFTA-6B-E-K	HY5DU561622ETPJ-K
rd	HY5DU121622CTP-J	———

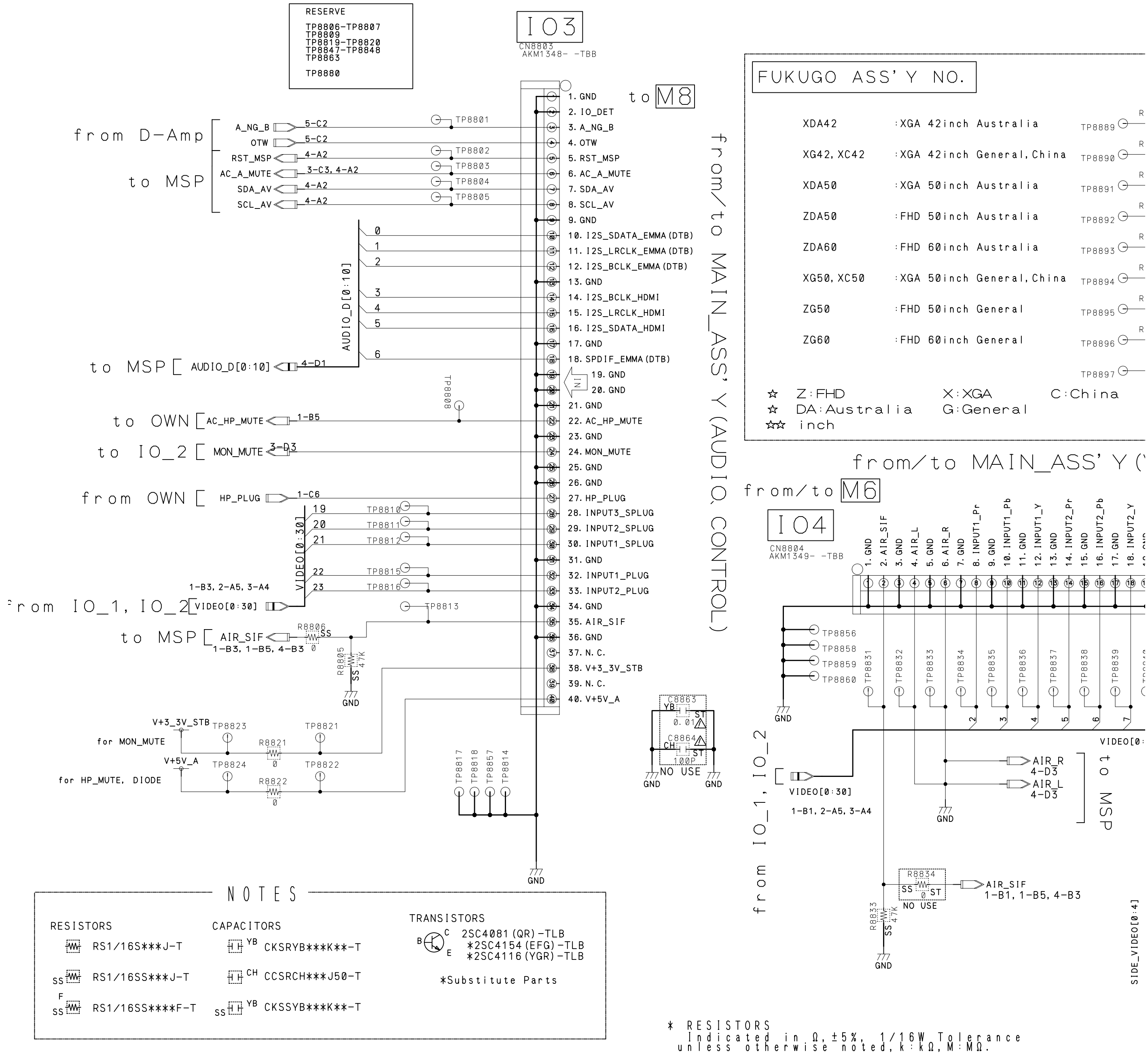

MDQ_EMMA2_[0:15]
K4H511638D-UCB3-K
IC8601
from OWN SHEET
VREF_DDR
21-B2, 22-A1
UDQS
UDM
DCKE
GND
NO USE
3Mbit (ROM IF)
NO USE
BYTE#
0-BYTE MODE
(DQ0-7 ACTIVE)
V+3_3V_UCOM_ROM
AGC1046- -PI-K
IC8604
from EMMA2
RDATA[0:15]
14-A4, 15-B3, 16-A1
21-D4, 22-C2
V+3_3V_UCOM
ENDIAN
MRGMODE[0:1]
Reserved
VRCLKSEL[0:1]
MCLKSEL[0:1]
ROMBEND
BWSEL
MINIBOOT
BBOTSEL[0:1]
BOOT_NAND_SEL[0:1]
Aside
K8601
AKX1061- -T
from EMMA2
RADD[0:25]
14-B3, 15-B3, 16-A1
21-D4, 22-C2
TP8601
EJTAG_MODE
DINT_EN
DSYSELB
PCI_MODE
PCI_SIZE[1:0]
NANDCS
FOEB
14-A3, 14-C3, 15-B5
16-B1, 21-D4
FCSB1
21-D5
from EMMA2
EMMA2
Pin Strap

ITEM	USED	VACANT
		AWV2523-/AWV2524-/ AWV2463-/ AWV2465-/AWV2466-/ AWV2467-
C	8601-8628, 8630-8632	8618-8621, 8625
IC	8601-8604	8604
K	8601	
L	8601	
R	8601-8630, 8632-8634, 8636-8648, 8651-8653, 8659-8682, 8685-8688, 8693-8697, 8699	8604, 8606, 8609, 8610, 8615, 8622, 8624, 8626, 8632, 8636-8638, 8645-8648, 8651, 8661, 8662, 8664

MAIN ASS'Y (EU/IBD/CHN) (22/22)
EMMA2_MEMORY BLOCK

AWV2523- : AWV2524- :
AWV2463- : AWV2465- :
AWV2466- : AWV2467-

9.21 TANSHI ASSY (1/4) [BOARD IF BLOCK]


RESERVE
TP8806-TP8807
TP8809
TP8819-TP8820
TP8847-TP8848
TP8863
TP8880
IO3
CN8803
AKM1348- -TBB
to M8
from/to MAIN_ASS'Y (AUDIO, CONTROL)
from D-Amp
to MSP
A_NG_B 5-C2
OTW 5-C2
RST_MSP 4-A2
AC_A_MUTE 3-C3, 4-A2
SDA_AV 4-A2
SCL_AV 4-A2
TP8801
TP8802
TP8803
TP8804
TP8805
1. GND
2. IO_DET
3. A_NG_B
4. OTW
5. RST_MSP
6. AC_A_MUTE
7. SDA_AV
8. SCL_AV
9. GND
10. I2S_SDATA_EMMA(DTB)
11. I2S_LRCLK_EMMA(DTB)
12. I2S_BCLK_EMMA(DTB)
13. GND
14. I2S_BCLK_HDMI
15. I2S_LRCLK_HDMI
16. I2S_SDATA_HDMI
17. GND
18. SPDIF_EMMA(DTB)
19. GND
20. GND
21. GND
22. AC_HP_MUTE
23. GND
24. MON_MUTE
25. GND
26. GND
27. HP_PLUG
28. INPUT3_SPLUG
29. INPUT2_SPLUG
30. INPUT1_SPLUG
31. GND
32. INPUT1_PLUG
33. INPUT2_PLUG
34. GND
35. AIR_SIF
36. GND
37. N.C.
38. V+3_3V_STB
39. N.C.
40. V+5V_A
IN
AUDIO_D[0:10]
to MSP [AUDIO_D[0:10] 4-D1
TP8808
to OWN [AC_HP_MUTE 1-B5
to IO_2 [MON_MUTE 3-D3
from OWN [HP_PLUG 1-C6
VIDEO[0:30]
TP8810
TP8811
TP8812
TP8815
TP8816
TP8813
1-B3, 2-A5, 3-A4
from IO_1, IO_2 [VIDEO[0:30]
to MSP [AIR_SIF 1-B3, 1-B5, 4-B3
R8806 SS 0
R8805 SS 47K
GND
V+3_3V_STB
for MON_MUTE
TP8823
TP8821
R8821 0
V+5V_A
for HP_MUTE, DIODE
TP8824
TP8822
R8822 0
TP8817
TP8818
TP8857
TP8814
C8863 YB ST 0.01
C8864 CH ST 100P
NO USE
FUKUGO ASS'Y NO.
XDA42 :XGA 42inch Australia TP8889
XG42, XC42 :XGA 42inch General, China TP8890
XDA50 :XGA 50inch Australia TP8891
ZDA50 :FHD 50inch Australia TP8892
ZDA60 :FHD 60inch Australia TP8893
XG50, XC50 :XGA 50inch General, China TP8894
ZG50 :FHD 50inch General TP8895
ZG60 :FHD 60inch General TP8896
TP8897
R
☆ Z:FHD X:XGA C:China
☆ DA:Australia G:General
☆☆ inch
from/to MAIN_ASS'Y (
from/to M6
IO4
CN8804
AKM1349- -TBB
1. GND
2. AIR_SIF
3. GND
4. AIR_L
5. GND
6. AIR_R
7. GND
8. INPUT1_Pr
9. GND
10. INPUT1_Pb
11. GND
12. INPUT1_Y
13. GND
14. INPUT2_Pr
15. GND
16. INPUT2_Pb
17. GND
18. INPUT2_Y
TP8856
TP8858
TP8859
TP8860
TP8831
TP8832
TP8833
TP8834
TP8835
TP8836
TP8837
TP8838
TP8839
VIDEO[0:
from IO_1, IO_2
VIDEO[0:30]
1-B1, 2-A5, 3-A4
AIR_R 4-D3
AIR_L 4-D3
to MSP
R8834 SS 0 ST
NO USE
AIR_SIF 1-B1, 1-B5, 4-B3
R8833 SS 47K
SIDE_VIDEO[0:4]

NOTES

RESISTORS
RS1/16S***J-T
SS RS1/16SS***J-T
F SS RS1/16SS****F-T

CAPACITORS
YB CKSRYB***K**-T
CH CCSRCH***J50-T
SS YB CKSSYB***K**-T

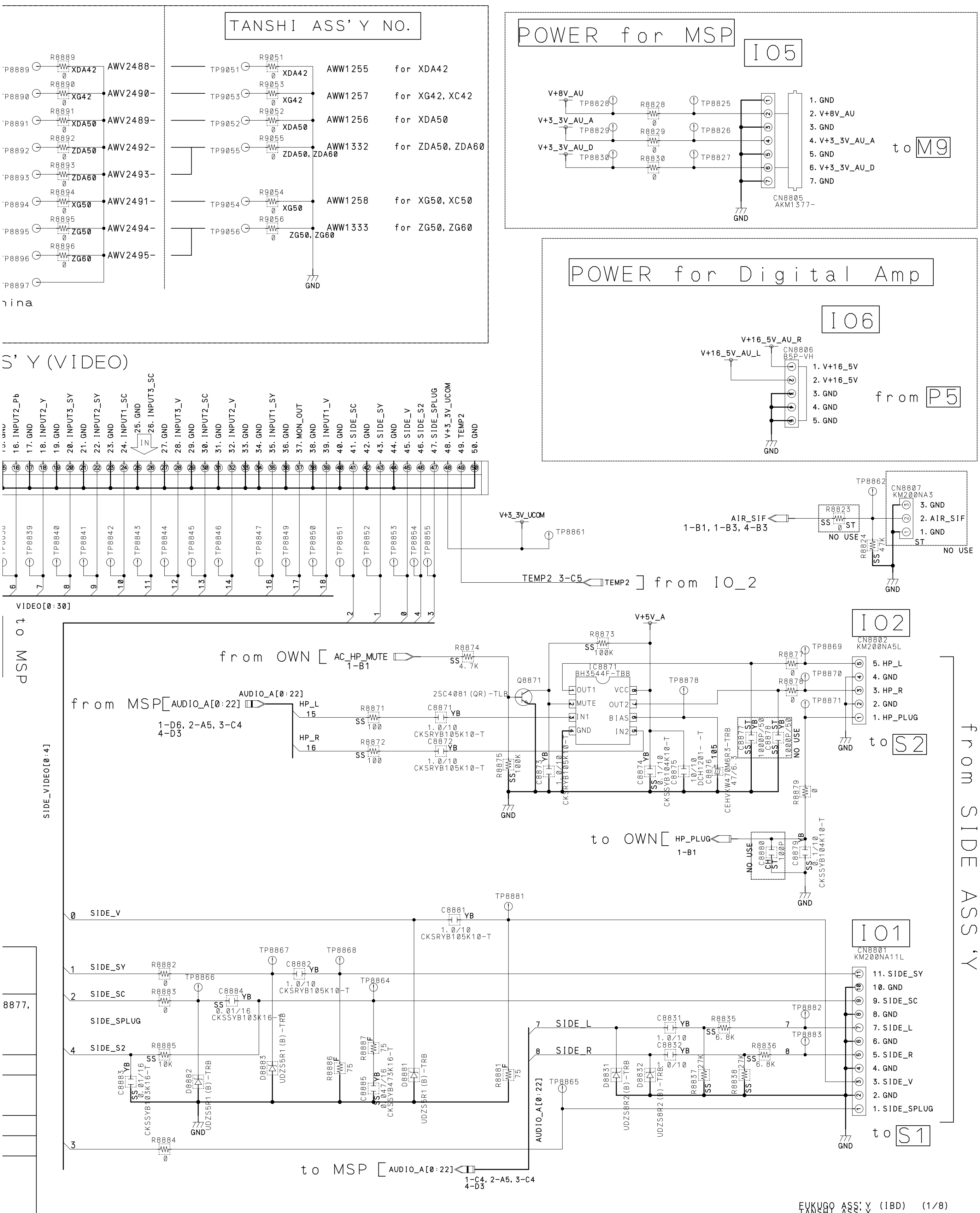
TRANSISTORS
2SC4081(QR)-TLB
*2SC4154(EFG)-TLB
*2SC4116(YGR)-TLB

*Substitute Parts

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

* RESISTORS
Indicated in Ω, ±5%, 1/16W Tolerance unless otherwise noted, k:kΩ, M:MΩ.
* CAPACITORS
Indicated in Capacity(µF)/Voltage(V) unless otherwise noted. p:pF
Indication without voltage is 50V except electrolytic capacitor.

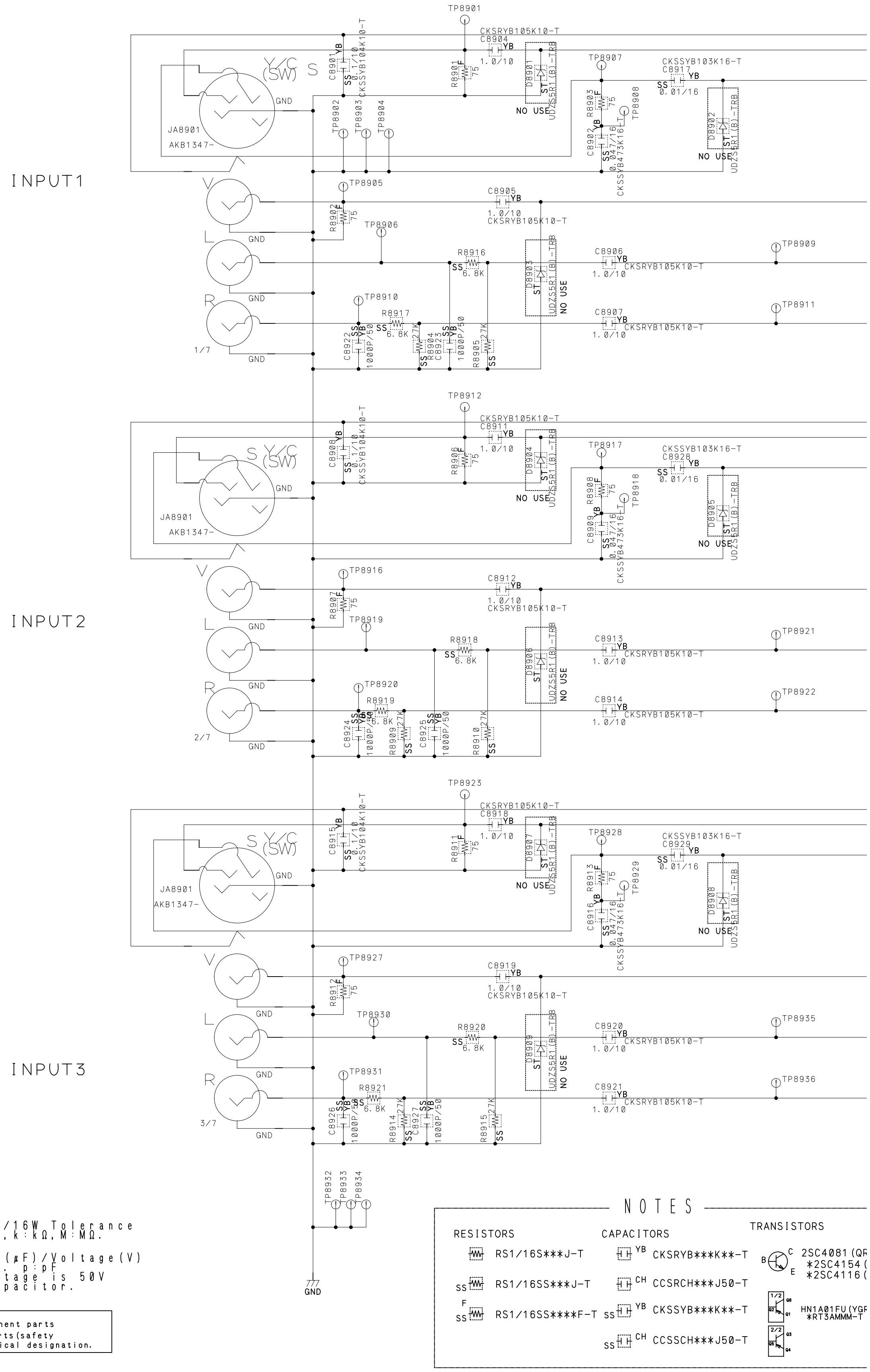
	USED	VACANT AWV2488-	VACANT AWV2489-	VACANT AWV2490-	VACANT AWV2491-	VACANT AWV2492-	VACANT AWV2493-	VACANT AWV2494-	VACANT AWV2495-
C	8831, 8832, 8863, 8864, 8871-8885	8863, 8864, 8877, 8878, 8880	8863, 8864, 8877, 8878, 8880	8863, 8864, 8877, 8878, 8880	8863, 8864, 8877, 8878, 8880	8863, 8864, 8877, 8878, 8880	8863, 8864, 8877, 8878, 8880	8863, 8864, 8877, 8878, 8880	8863, 8864, 8877, 8878, 8880
CN	8801-8807	8807	8807	8807	8807	8807	8807	8807	8807
D	8831, 8832, 8881-8883								
IC	8871								
Q	8871								
R	8805, 8806, 8821, 8822-8824, 8828-8830, 8833, 8835-8838, 8871-8875, 8877-8879, 8881-8887, 8889-8896 9051-9056	8823, 8834, 8890-8896, 9052-9056	8823, 8834, 8889, 8890, 8892-8896, 9051, 9053-9056	8823, 8834, 8889, 8891-8896, 9051, 9052, 9054-9056	8823, 8834, 8889-8893, 8895, 8896, 9051-9053, 9055, 9056	8823, 8834, 8889-8891, 8893-8896, 9051-9054, 9056	8823, 8834, 8889-8892, 8894-8896, 9051-9054, 9056	8823, 8834, 8889-8894, 8896, 9051-9055	8823, 8834, 8889-8895 9051-9055


TANSHI ASS'Y NO.
R8889 XDA42 AWV2488-
R8890 XG42 AWV2490-
R8891 XDA50 AWV2489-
R8892 ZDA50 AWV2492-
R8893 ZDA60 AWV2493-
R8894 XG50 AWV2491-
R8895 ZG50 AWV2494-
R8896 ZG60 AWV2495-
TP8889 TP8890 TP8891 TP8892 TP8893 TP8894 TP8895 TP8896 TP8897
TP9051 R9051 XDA42 AWW1255 for XDA42
TP9053 R9053 XG42 AWW1257 for XG42, XC42
TP9052 R9052 XDA50 AWW1256 for XDA50
TP9055 R9055 ZDA50, ZDA60 AWW1332 for ZDA50, ZDA60
TP9054 R9054 XG50 AWW1258 for XG50, XC50
TP9056 R9056 ZG50, ZG60 AWW1333 for ZG50, ZG60
GND
POWER for MSP
IO5
V+8V_AU V+3_3V_AU_A V+3_3V_AU_D
TP8828 TP8829 TP8830 R8828 R8829 R8830 TP8825 TP8826 TP8827
1. GND
2. V+8V_AU
3. GND
4. V+3_3V_AU_A
5. GND
6. V+3_3V_AU_D
7. GND
CN8805 AKM1377-
to M9
POWER for Digital Amp
IO6
V+16_5V_AU_R V+16_5V_AU_L CN8806 B5P-VH
1. V+16_5V
2. V+16_5V
3. GND
4. GND
5. GND
from P5
S' Y (VIDEO)
16. INPUT2_Pb 17. GND 18. INPUT2_Y 19. GND 20. INPUT3_SY 21. GND 22. INPUT2_SY 23. GND 24. INPUT1_SC 25. GND 26. INPUT3_SC 27. GND 28. INPUT3_V 29. GND 30. INPUT2_SC 31. GND 32. INPUT2_V 33. GND 34. GND 35. INPUT1_SY 36. GND 37. MON_OUT 38. GND 39. INPUT1_V 40. GND 41. SIDE_SC 42. GND 43. SIDE_SY 44. GND 45. SIDE_V 46. SIDE_S2 47. SIDE_SPLUG 48. V+3_3V_UCOM 49. TEMP2 50. GND
IN
TP8839 TP8840 TP8841 TP8842 TP8843 TP8844 TP8845 TP8846 TP8847 TP8849 TP8850 TP8851 TP8852 TP8853 TP8854 TP8855
VIDEO[0:30]
V+3_3V_UCOM TP8861
TEMP2 3-C5 TEMP2 from IO_2
TP8862 CN8807 KM200NA3
3. GND
2. AIR_SIF
1. GND
AIR_SIF 1-B1, 1-B3, 4-B3 R8823 SS ST NO USE R8824 4.7K NO USE
to MSP
SIDE_VIDEO[0:4]
IO2
V+5V_A R8873 SS 100K
from OWN AC_HP_MUTE 1-B1 R8874 SS 4.7K
Q8871 2SC4081(QR)-TLB
IC8871 BH3544F-TBB OUT1 VCC MUTE OUT2 IN1 BIAS GND IN2
TP8878
from MSP AUDIO_A[0:22] 1-D6, 2-A5, 3-C4 4-D3
HP_L 15 R8871 SS 100 C8871 YB 1.0/10 CKSRYB105K10-T
HP_R 16 R8872 SS 100 C8872 YB 1.0/10 CKSRYB105K10-T
R8875 SS 100K C8873 YB 1.0/10 CKSRYB105K10-T
C8874 YB SS 0.1/10 CKSSYB104K10-T C8875 10/10 DCH1201- -T C8876 105 47/6.3 CEHVKW470M6R3-TRB
C8877 SS 1000P/50 C8878 CH 1000P/50 SS
R8877 R8878 TP8869 TP8870 TP8871 CN8802 KM200NA5L
5. HP_L
4. GND
3. HP_R
2. GND
1. HP_PLUG
NO USE
to S2
R8879
to OWN HP_PLUG 1-B1
C8880 NO USE CH ST 100P C8879 YB SS 0.1/10 CKSSYB104K10-T
GND
from SIDE ASS'Y
0 SIDE_V TP8881 C8881 YB 1.0/10 CKSRYB105K10-T
IO1 CN8801 KM200NA11L
1 SIDE_SY R8882 TP8866 TP8867 TP8868 C8882 YB 1.0/10 CKSRYB105K10-T
2 SIDE_SC R8883 C8884 YB SS 0.01/16 CKSSYB103K16-T TP8864
SIDE_SPLUG
4 SIDE_S2 R8885 SS 10K
C8883 YB SS 0.01/16 CKSSYB103K16-T D8882 UDZS5R1(B)-TRB D8883 UDZS5R1(B)-TRB R8886 75 R8887 75 C8885 YB SS 0.047/16 CKSSYB473K16-T D8881 UDZS5R1(B)-TRB R8881 75
3 R8884
7 SIDE_L C8831 YB 1.0/10 R8835 SS 6.8K TP8882
8 SIDE_R C8832 YB 1.0/10 R8836 SS 6.8K TP8883
AUDIO_A[0:22] TP8865 D8831 UDZS8R2(B)-TRB D8832 UDZS8R2(B)-TRB R8837 SS 27K R8838 SS 27K
11. SIDE_SY
10. GND
9. SIDE_SC
8. GND
7. SIDE_L
6. GND
5. SIDE_R
4. GND
3. SIDE_V
2. GND
1. SIDE_SPLUG
to S1
to MSP AUDIO_A[0:22] 1-C4, 2-A5, 3-C4 4-D3
8877,
hina

FUKUGO ASS'Y (IBD) (1/8)
TANSHI ASS'Y
BOARD IF

AWV2488-
AWW1255
A01W1255

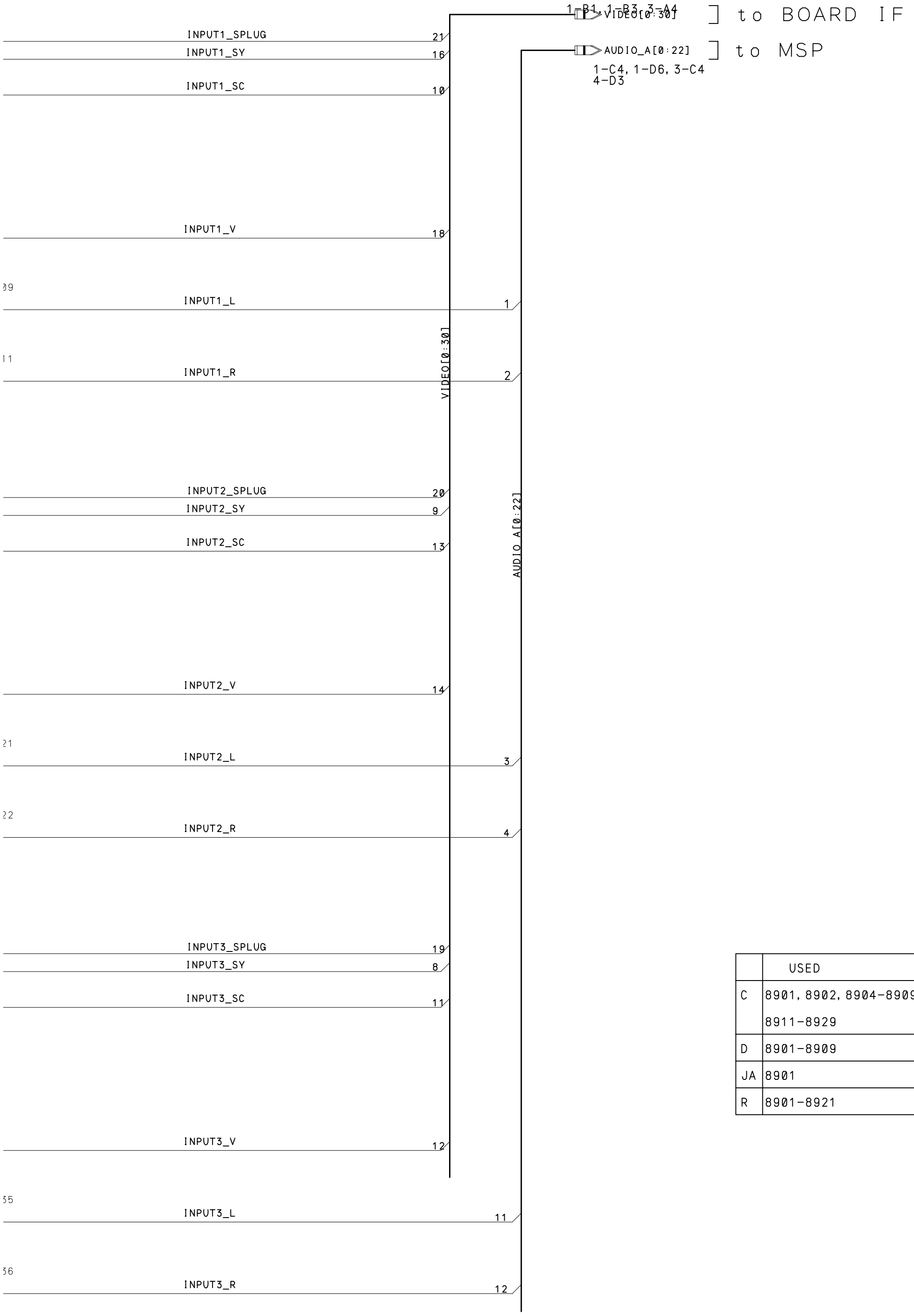
9.22 TANSHI ASSY (2/4) [IO_1 BLOCK]


INPUT1
INPUT2
INPUT3
Y/C (SW) S
S Y/C (SW)
JA8901
AKB1347-
V
L
R
GND
1/7
2/7
3/7
TP8901
TP8902
TP8903
TP8904
TP8905
TP8906
TP8907
TP8908
TP8909
TP8910
TP8911
TP8912
TP8916
TP8917
TP8918
TP8919
TP8920
TP8921
TP8922
TP8923
TP8927
TP8928
TP8929
TP8930
TP8931
TP8932
TP8933
TP8934
TP8935
TP8936
C8901 0.1/10 CKSSYB104K10-T
C8904 1.0/10 CKSRYB105K10-T
R8901 75
D8901 UDZS5R1(B)-TRB
NO USE
R8903 75
C8902 0.047/16 CKSSYB473K16-T
C8917 0.01/16 CKSSYB103K16-T
D8902 UDZS5R1(B)-TRB
R8902 75
C8905 1.0/10 CKSRYB105K10-T
R8916 6.8K
D8903 UDZS5R1(B)-TRB
C8906 1.0/10 CKSRYB105K10-T
R8917 6.8K
C8922 1000P/50
R8904 27K
C8923 1000P/50
R8905 27K
C8907 1.0/10 CKSRYB105K10-T
C8908 0.1/10 CKSSYB104K10-T
C8911 1.0/10 CKSRYB105K10-T
R8906 75
D8904 UDZS5R1(B)-TRB
R8908 75
C8909 0.047/16 CKSSYB473K16-T
C8928 0.01/16 CKSSYB103K16-T
D8905 UDZS5R1(B)-TRB
R8907 75
C8912 1.0/10 CKSRYB105K10-T
R8918 6.8K
D8906 UDZS5R1(B)-TRB
C8913 1.0/10 CKSRYB105K10-T
R8919 6.8K
C8924 1000P/50
R8909 27K
C8925 1000P/50
R8910 27K
C8914 1.0/10 CKSRYB105K10-T
C8915 0.1/10 CKSSYB104K10-T
C8918 1.0/10 CKSRYB105K10-T
R8911 75
D8907 UDZS5R1(B)-TRB
R8913 75
C8916 0.047/16 CKSSYB473K16-T
C8929 0.01/16 CKSSYB103K16-T
D8908 UDZS5R1(B)-TRB
R8912 75
C8919 1.0/10 CKSRYB105K10-T
R8920 6.8K
D8909 UDZS5R1(B)-TRB
C8920 1.0/10 CKSRYB105K10-T
R8921 6.8K
C8926 1000P/50
R8914 27K
C8927 1000P/50
R8915 27K
C8921 1.0/10 CKSRYB105K10-T
SS
YB
GND
NOTES
RESISTORS
RS1/16S∗∗∗J-T
SS RS1/16SS∗∗∗J-T
F SS RS1/16SS∗∗∗∗F-T
CAPACITORS
YB CKSRYB∗∗∗K∗∗-T
CH CCSRCH∗∗∗J50-T
SS YB CKSSYB∗∗∗K∗∗-T
SS CH CCSSCH∗∗∗J50-T
TRANSISTORS
B C E
2SC4081(QR
∗2SC4154(
∗2SC4116(
1/2 Q6 Q2 Q1
2/2 Q3 Q5 Q4
HN1A01FU(YGR
∗RT3AMMM-T

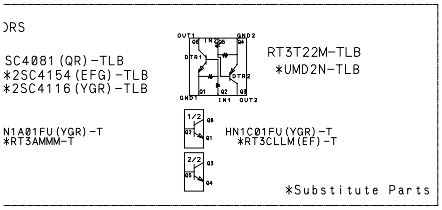
∗ RESISTORS
Indicated in Ω, ±5%, 1/16W Tolerance unless otherwise noted, k : kΩ, M : MΩ.

∗ CAPACITORS
Indicated in Capacity(μF)/Voltage(V) unless otherwise noted. p : pF
Indication without voltage is 50V except electrolytic capacitor.

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.


1-B1, 1-B3, 3-A4
VIDEO[0:30]
] to BOARD IF
AUDIO_A[0:22]
] to MSP
1-C4, 1-D6, 3-C4
4-D3
INPUT1_SPLUG
21
INPUT1_SY
16
INPUT1_SC
10
INPUT1_V
18
39
INPUT1_L
1
11
INPUT1_R
2
VIDEO[0:30]
INPUT2_SPLUG
20
INPUT2_SY
9
INPUT2_SC
13
AUDIO_A[0:22]
INPUT2_V
14
21
INPUT2_L
3
22
INPUT2_R
4
INPUT3_SPLUG
19
INPUT3_SY
8
INPUT3_SC
11
INPUT3_V
12
55
INPUT3_L
11
56
INPUT3_R
12

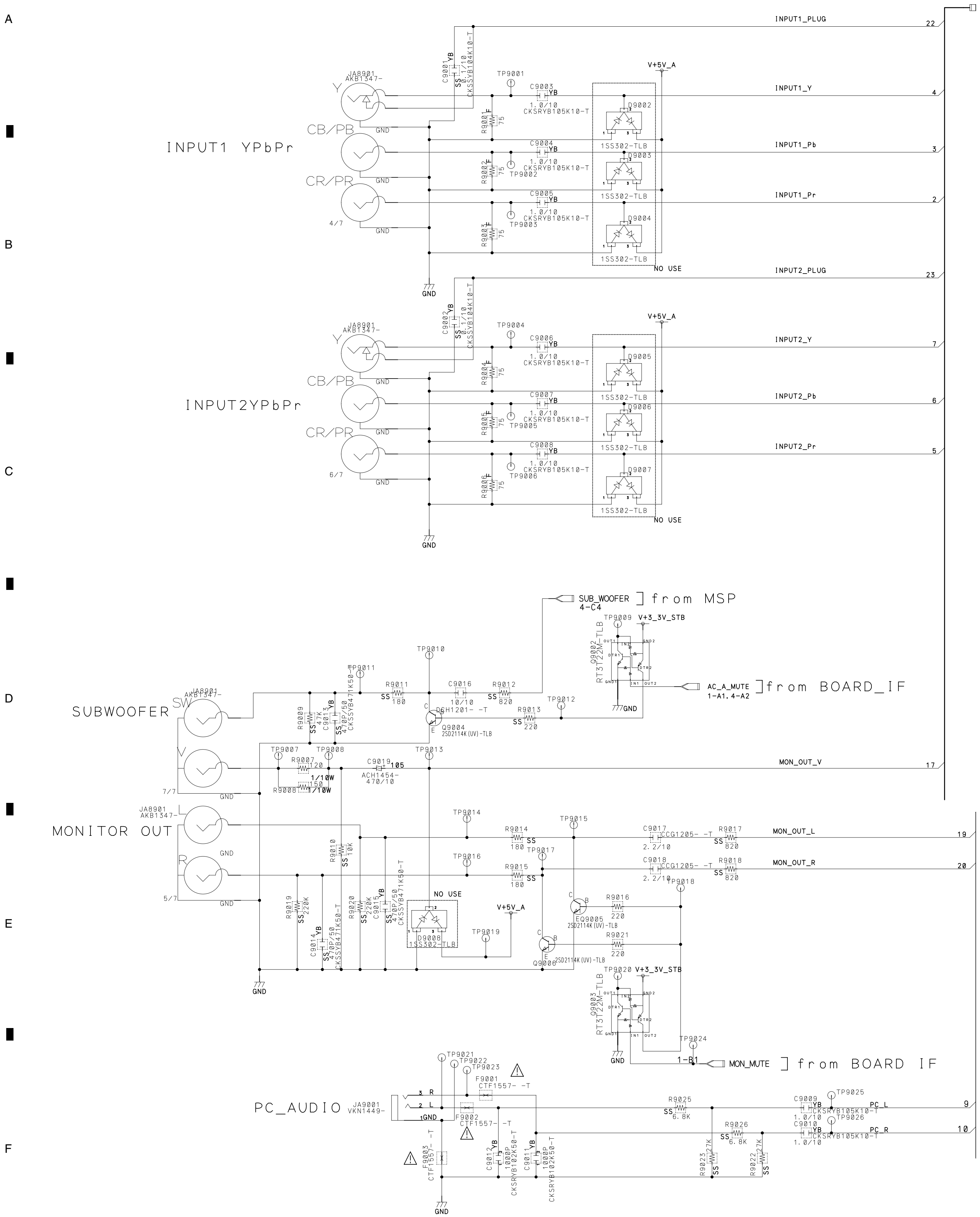
	USED	VACANT
C	8901, 8902, 8904-8909, 8911-8929	
D	8901-8909	8901-8909
JA	8901	
R	8901-8921	


ORS
SC4081(QR)-TLB
*2SC4154(EFG)-TLB
*2SC4116(YGR)-TLB
OUT1
GND2
Q6
IN2
Q5
Q4
DTR1
DTR2
Q1
Q2
Q3
GND1
IN1
OUT2
RT3T22M-TLB
*UMD2N-TLB
N1A01FU(YGR)-T
*RT3AMMM-T
1/2
Q6
Q2
Q1
HN1C01FU(YGR)-T
*RT3CLLM(EF)-T
2/2
Q3
Q5
Q4
*Substitute Parts

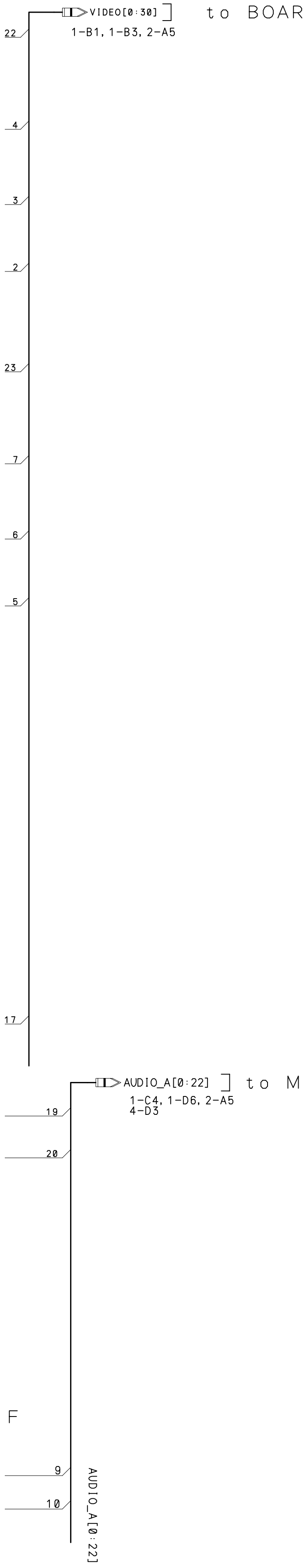
FUKUGO ASS'Y (IBD) (2/8)
TANSHI ASS'Y
IO_1

AWV2488-
AWW1255
A02W1255

9.23 TANSHI ASSY (3/4) [IO_2 BLOCK]



A
B
C
D
E
F
INPUT1 YPbPr
JA8901
AKB1347-
Y
CB/PB
CR/PR
GND
4/7
C9001
YB
SS
0.1/10
CKSSYB104K10-T
TP9001
C9003
1.0/10
CKSRYB105K10-T
R9001
75
D9002
1SS302-TLB
V+5V_A
INPUT1_PLUG
22
INPUT1_Y
4
C9004
R9002
TP9002
D9003
INPUT1_Pb
3
C9005
R9003
TP9003
D9004
INPUT1_Pr
2
NO USE
INPUT2_PLUG
23
INPUT2YPbPr
6/7
C9002
TP9004
C9006
R9004
D9005
INPUT2_Y
7
C9007
R9005
TP9005
D9006
INPUT2_Pb
6
C9008
R9006
TP9006
D9007
INPUT2_Pr
5
SUB_WOOFER
4-C4
] from MSP
TP9009
V+3_3V_STB
Q9002
RT3T22M-TLB
OUT1 IN2 GND2
DTR1 DTR2
GND1 IN1 OUT2
AC_A_MUTE
1-A1, 4-A2
]from BOARD_IF
SUBWOOFER
SW
TP9010
TP9011
R9011
180
C9016
10/10
R9012
820
TP9012
R9013
220
DCH1201- -T
Q9004
2SD2114K (UV) -TLB
R9009
4.7K
C9013
470P/50
CKSSYB471K50-T
V
7/7
TP9007
TP9008
R9007
120
1/10W
R9008
150
1/10W
C9019
105
ACH1454-
470/10
TP9013
MON_OUT_V
17
MONITOR OUT
JA8901
AKB1347-
L
R
5/7
TP9014
R9014
180
TP9015
C9017
CCG1205- -T
2.2/10
R9017
820
MON_OUT_L
19
R9010
10K
TP9016
R9015
180
TP9017
C9018
CCG1205- -T
2.2/10
R9018
820
MON_OUT_R
20
TP9018
R9019
220K
C9014
470P/50
CKSSYB471K50-T
R9020
220K
C9015
470P/50
CKSSYB471K50-T
NO USE
D9008
1SS302-TLB
V+5V_A
TP9019
Q9005
2SD2114K (UV) -TLB
R9016
220
R9021
220
Q9006
2SD2114K (UV) -TLB
TP9020
V+3_3V_STB
Q9003
RT3T22M-TLB
TP9024
1-B1
MON_MUTE
] from BOARD IF
TP9021
TP9022
TP9023
F9001
CTF1557- -T
PC_AUDIO
JA9001
VKN1449-
3 R
2 L
1GND
F9002
CTF1557- -T
F9003
CTF1557- -T
C9012
1000P
CKSRYB102K50-T
C9011
1000P
CKSRYB102K50-T
R9025
6.8K
R9026
6.8K
R9023
27K
R9022
27K
C9009
1.0/10
CKSRYB105K10-T
TP9025
PC_L
9
C9010
1.0/10
CKSRYB105K10-T
TP9026
PC_R
10


VIDEO[0:30]
to BOARD_IF
1-B1, 1-B3, 2-A5
22
4
3
2
23
7
6
5
17
AUDIO_A[0:22]
to MSP
1-C4, 1-D6, 2-A5
4-D3
19
20
9
10
AUDIO_A[0:22]

* RESISTORS
Indicated in Ω, ±5%, 1/16W Tolerance
unless otherwise noted, k: kΩ, M: MΩ.
* CAPACITORS
Indicated in Capacity(μF)/Voltage(V)
unless otherwise noted. p: pF
Indication without voltage is 50V
except electrolytic capacitor.

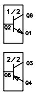
The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

NOTES

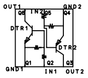
RESISTORS
- RS1/16S***J-T
- SS RS1/16SS***J-T
- F SS RS1/16SS****F-T

CAPACITORS
- YB CKSRYB***K**-T
- SS YB CKSSYB***K**-T

TRANSISTORS

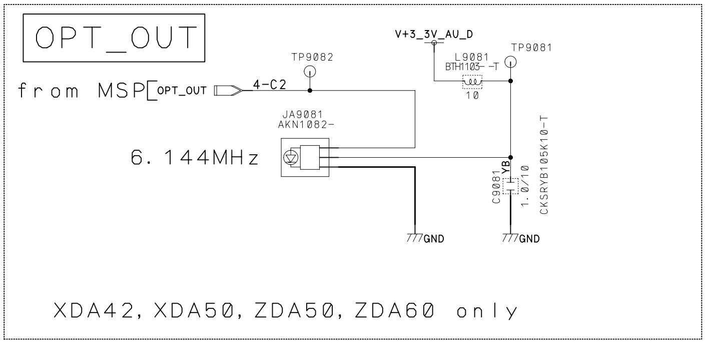

1/2
Q6
Q2
Q1
2/2
Q3
Q5
Q4

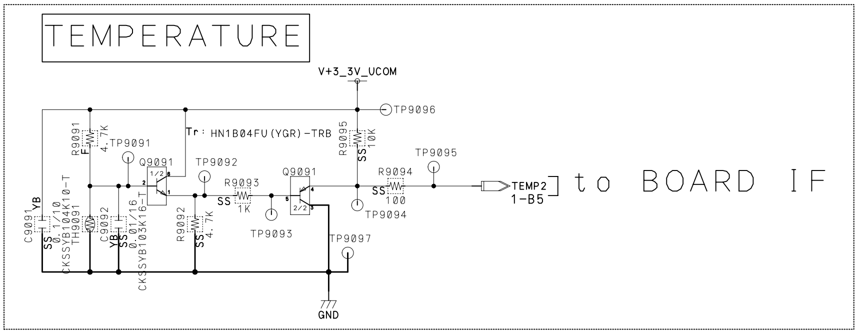
HN1B04FU(YGR)-TRB
*RT3WLMM(EF)-TRB


OUT1
IN2
GND2
Q6
Q5
Q4
DTR1
DTR2
Q1
Q2
Q3
GND1
IN1
OUT2

RT3T22M-TLB
*UMD2N-TLB

*Substitute Parts


OPT_OUT
V+3_3V_AU_D
TP9082
TP9081
L9081
BTH1103- -T
10
from MSP
OPT_OUT
4-C2
JA9081
AKN1082-
6.144MHz
C9081
YB
1.0/10
CKSRYB105K10-T
GND
GND
XDA42, XDA50, ZDA50, ZDA60 only

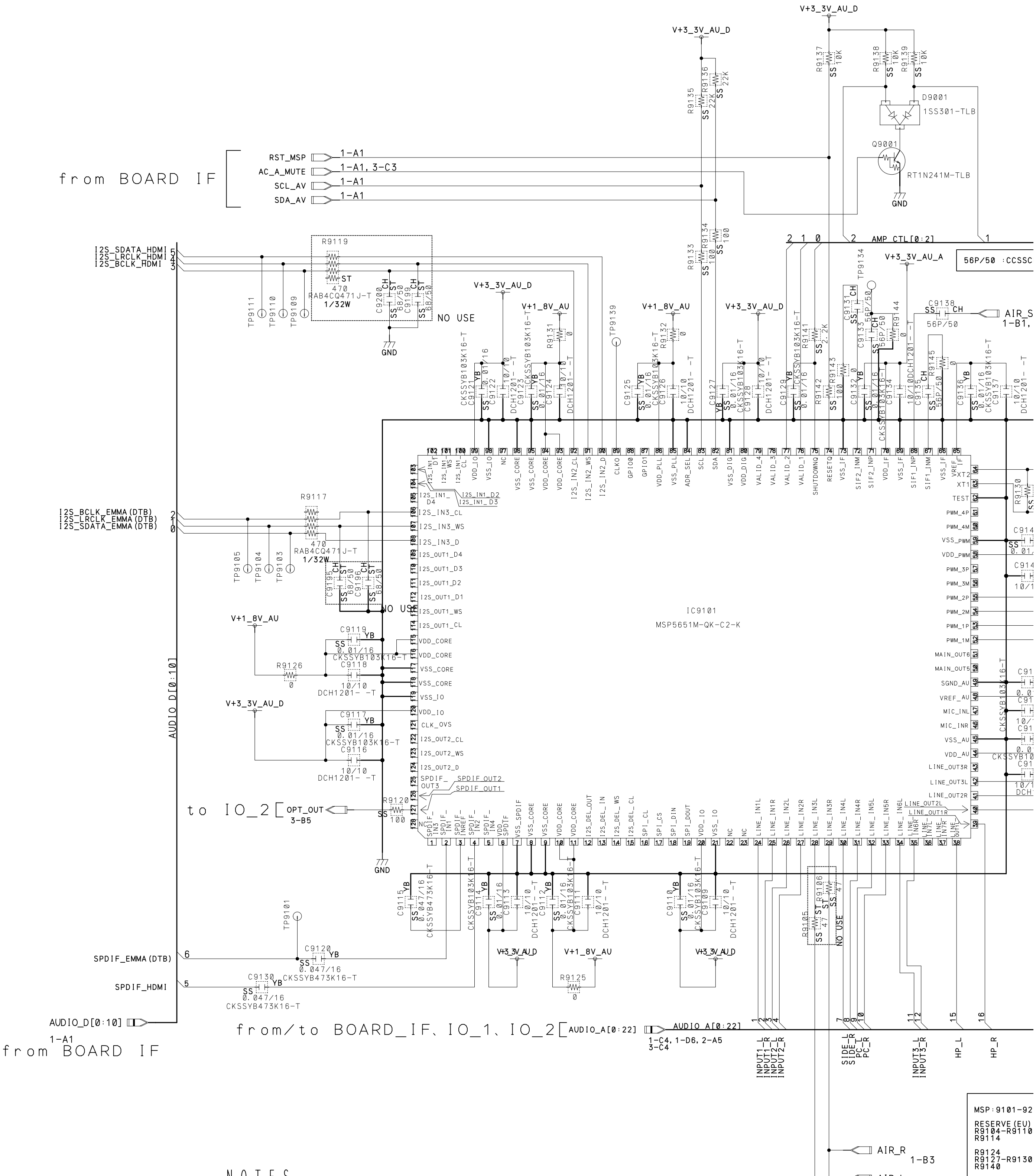

TEMPERATURE
V+3_3V_UCOM
TP9096
Tr: HN1B04FU(YGR)-TRB
R9091
F
4.7K
TP9091
Q9091
1/2
TP9092
R9093
SS
1K
TP9093
Q9091
2/2
R9095
SS
10K
TP9095
R9094
SS
100
TP9094
TP9097
TEMP2
1-B5
to BOARD IF
C9091
YB
SS
0.1/10
CKSSYB104K10-T
TH9091
C9092
YB
SS
0.01/16
CKSSYB103K16-T
R9092
SS
4.7K
GND

	USED	VACANT AWV2488-, AWV2489- AWV2492-, AWV2493-	VACANT AWV2490-, AWV2491- AWV2494-, AWV2495-
C	9001-9019, 9081, 9091, 9092		9081
D	9002-9008		
F	9001-9003		
JA	9001, 9081		
L	9081		9081
Q	9002-9006, 9091		9081
R	9001-9023, 9025, 9026, 9091-9095		
TH	9091		

FUKUGO ASS'Y (IBD) (3/8)
TANSHI ASS'Y
IO_2

AWV2488-
AWW1255
A03W1255

9.24 TANSHI ASSY (4/4) [MSP BLOCK]


A
B
C
D
E
F
V+3_3V_AU_D
R9137 SS 10K
R9138 SS 10K
R9139 SS 10K
D9001 1SS301-TLB
Q9001 RT1N241M-TLB
GND
R9135 R9136 SS 22K
from BOARD IF
RST_MSP 1-A1
AC_A_MUTE 1-A1, 3-C3
SCL_AV 1-A1
SDA_AV 1-A1
R9133 R9134 SS 100
2 1 0
AMP CTL[0:2]
56P/50 :CCSSC
I2S_SDATA_HDMI 5
I2S_LRCLK_HDMI 4
I2S_BCLK_HDMI 3
R9119 ST 470 RAB4CQ471J-T 1/32W
TP9111 TP9110 TP9109
C9200 C9199 CH ST 68/50
NO USE
V+3_3V_AU_D
V+1_8V_AU
R9131 0
TP9139
R9132 0
TP9134
C9138 SS CH 56P/50
AIR_S 1-B1,
V+3_3V_AU_A
C9121 CKSSYB103K16-T YB 0.01/16
C9122 DCH1201- -T 10/10
C9123 C9124
C9125 C9126
C9127 C9128
C9129 R9141 R9142 2.2K R9143 100
C9131 C9132 C9133 C9134 R9144 0
C9135 C9136 C9137 R9145
I2S_BCLK_EMMA(DTB) 2
I2S_LRCLK_EMMA(DTB) 1
I2S_SDATA_EMMA(DTB) 0
R9117 470 RAB4CQ471J-T 1/32W
TP9105 TP9104 TP9103
C9195 C9196 CH ST 68/50
NO USE
V+1_8V_AU
C9119 YB SS 0.01/16 CKSSYB103K16-T
C9118 10/10 DCH1201- -T
R9126 0
V+3_3V_AU_D
C9117 YB SS 0.01/16 CKSSYB103K16-T
C9116 10/10 DCH1201- -T
IC9101
MSP5651M-QK-C2-K
to IO_2 OPT_OUT 3-B5
R9120 SS 100
GND
AUDIO D[0:10]
TP9101
C9115 CKSSYB473K16-T YB 0.047/16
C9114 C9113 C9112 C9111 C9110 C9109
R9105 R9106 ST 47 NO USE
V+3_3V_AU_D V+1_8V_AU V+3_3V_AU_D
R9125 0
SPDIF_EMMA(DTB) 6
SPDIF_HDMI 5
C9120 YB SS 0.047/16 CKSSYB473K16-T
C9130 YB SS 0.047/16 CKSSYB473K16-T
AUDIO_D[0:10] 1-A1
from BOARD IF
from/to BOARD_IF、IO_1、IO_2 AUDIO_A[0:22]
1-C4, 1-D6, 2-A5 3-C4
AUDIO A[0:22]
INPUT1_L INPUT1_R INPUT2_L INPUT2_R
SIDE_L SIDE_R PC_L PC_R
INPUT3_L INPUT3_R
HP_L HP_R
AIR_R 1-B3
AIR_L 1-B3
GND
MSP:9101-92
RESERVE(EU) R9104-R9110 R9114
R9124 R9127-R9130 R9140
I2S_IN1_D1 I2S_IN1_CL I2S_IN1_WS VDD_IO VSS_IO NC VSS_CORE VDD_CORE I2S_IN2_CL I2S_IN2_WS I2S_IN2_D CLKO GPIO0 GPIO1 VDD_PLL VSS_PLL ADR_SEL SCL SDA VSS_DIG VDD_DIG VALID_4 VALID_3 VALID_2 VALID_1 SHUTDOWNQ RESETQ VSS_IF SIF2_INM SIF2_INP VDD_IF VSS_IF SIF1_INP SIF1_INM VREF_IF
XTI2 XTI1 TEST PWM_4P PWM_4M VSS_PWM VDD_PWM PWM_3P PWM_3M PWM_2P PWM_2M PWM_1P PWM_1M MAIN_OUT6 MAIN_OUT5 SGND_AU VREF_AU MIC_INL MIC_INR VSS_AU VDD_AU LINE_OUT3R LINE_OUT3L LINE_OUT2R LINE_OUT2L LINE_OUT1R
I2S_IN1_D4 I2S_IN3_CL I2S_IN3_WS I2S_IN3_D I2S_OUT1_D4 I2S_OUT1_D3 I2S_OUT1_D2 I2S_OUT1_D1 I2S_OUT1_WS I2S_OUT1_CL VDD_CORE VDD_CORE VSS_CORE VSS_CORE VSS_IO VDD_IO CLK_OVS I2S_OUT2_CL I2S_OUT2_WS I2S_OUT2_D SPDIF_OUT3 SPDIF_OUT2 SPDIF_OUT1
SPDIF_IN3 SPDIF_IN1 SPDIF_IN2 SPDIF_IN4 VDD_SPDIF VSS_SPDIF VSS_CORE VDD_CORE I2S_DEL_OUT I2S_DEL_IN I2S_DEL_WS I2S_DEL_CL SPI_CL SPI_CS SPI_DIN SPI_DOUT VDD_IO VSS_IO NC NC LINE_IN1L LINE_IN1R LINE_IN2L LINE_IN2R LINE_IN3L LINE_IN3R LINE_IN4L LINE_IN4R LINE_IN5L LINE_IN5R LINE_IN6L LINE_INR LINE_INL LINE_OUT1L

NOTES

RESISTORS
- RS1/16S***J-T
- SS RS1/16SS***J-T
- F SS RS1/16SS****F-T

CAPACITORS
- YB CKSRYB***K**-T
- CH SS CCSSCH***J50-T
- YB SS CKSSYB***K**-T

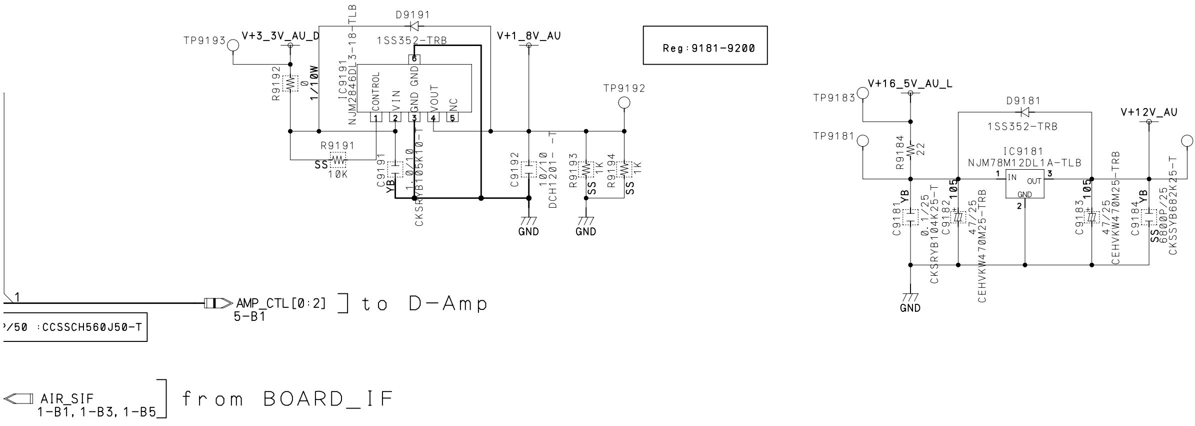
DIODE
- 1SS301-TLB *MC2848-11-TLB *DAN202U-TLB
- 1SS352-TRB *1SS355-TRB

TRANSISTORS
- RT1N241M-TLB *DTC124EUA-TLB

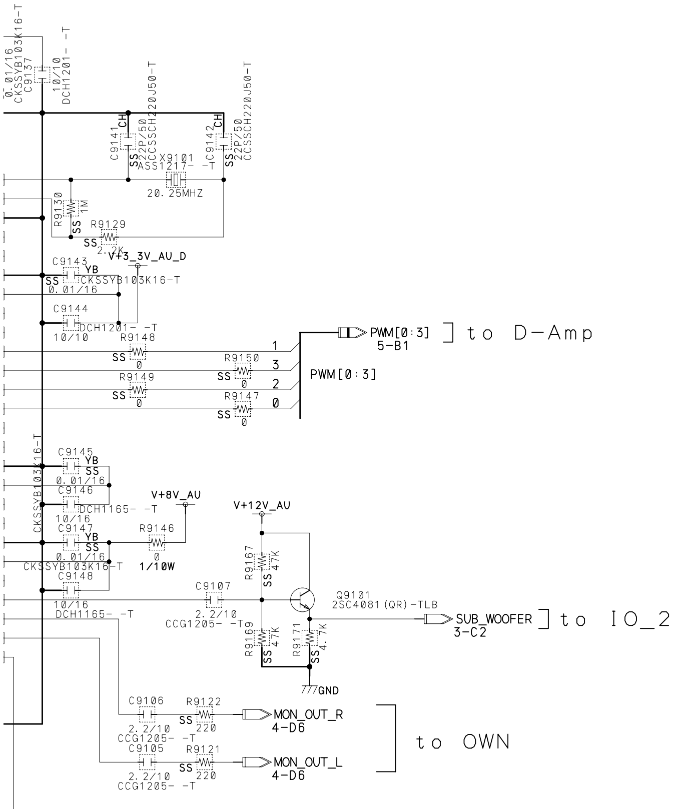
*Substitute Parts

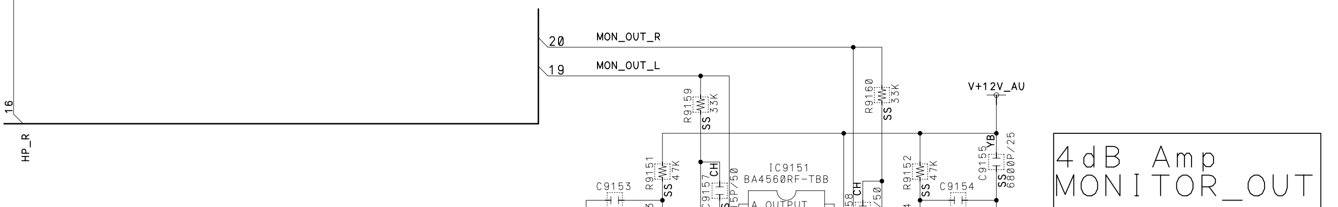
* RESISTORS
Indicated in
unless otherwi
* CAPACITORS
Indicated in
unless otherwi
Indication wit
except electro

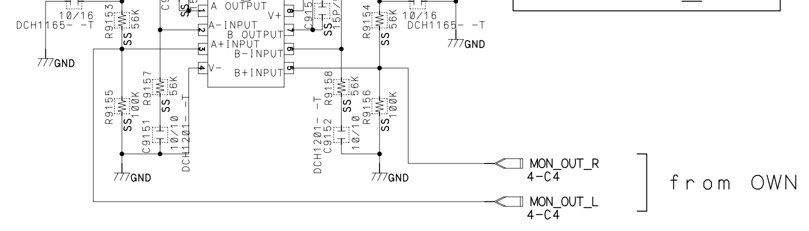
The ⚠ mark found o
should be replaced
regulation authoriz


TP9193
V+3_3V_AU_D
R9192
0
1/10W
IC9191
NJM2846DL3-18-TLB
CONTROL
VIN
GND GND
VOUT
NC
D9191
1SS352-TRB
V+1_8V_AU
TP9192
R9191
SS
10K
C9191
YB
1.0/10
CKSRYB105K10-T
C9192
10/10
DCH1201- -T
R9193
SS
1K
R9194
SS
1K
GND
GND
Reg:9181-9200
V+16_5V_AU_L
TP9183
TP9181
D9181
1SS352-TRB
V+12V_AU
TP9182
IC9181
NJM78M12DL1A-TLB
IN
OUT
GND
R9184
22
C9181
YB
0.1/25
CKSRYB104K25-T
C9182
105
47/25
CEHVKW470M25-TRB
C9183
105
47/25
CEHVKW470M25-TRB
C9184
YB
SS
6800P/25
CKSSYB682K25-T
GND
1
AMP_CTL[0:2]
5-B1
to D-Amp
P/50 :CCSSCH560J50-T
AIR_SIF
1-B1, 1-B3, 1-B5
from BOARD_IF

	USED	VACANT
C	9105-9107, 9109-9138, 9141-9148, 9151-9155, 9157, 9158, 9181-9184, 9191, 9192, 9195, 9196, 9199, 9200	9195, 9196, 9199, 9200
D	9001, 9181, 9191	
IC	9101, 9151, 9181, 9191	
Q	9001, 9101	
R	9117, 9120-9122, 9125, 9126, 9129-9139, 9141-9160, 9167, 9169, 9171, 9184, 9191-9194 9105, 9106, 9119	9105, 9106, 9119
X	9101	


0.01/16
CKSSYB103K16-T
C9137
10/10
DCH1201- -T
C9141
CH
SS
22P/50
CCSSCH220J50-T
C9142
CH
SS
22P/50
CCSSCH220J50-T
X9101
ASS1217- -T
20.25MHZ
R9130
SS
1M
R9129
SS
2.2K
C9143
YB
SS
0.01/16
CKSSYB103K16-T
V+3_3V_AU_D
C9144
10/10
DCH1201- -T
R9148
SS
0
R9150
SS
0
R9149
SS
0
R9147
SS
0
1
3
2
0
PWM[0:3]
PWM[0:3]
5-B1
to D-Amp
C9145
YB
SS
0.01/16
C9146
10/16
DCH1165- -T
CKSSYB103K16-T
C9147
YB
SS
0.01/16
CKSSYB103K16-T
C9148
10/16
DCH1165- -T
V+8V_AU
R9146
0
1/10W
V+12V_AU
R9167
SS
47K
C9107
2.2/10
CCG1205- -T
Q9101
2SC4081(QR)-TLB
SUB_WOOFER
3-C2
to IO_2
R9169
SS
47K
R9171
SS
4.7K
GND
C9106
2.2/10
CCG1205- -T
R9122
SS
220
MON_OUT_R
4-D6
C9105
2.2/10
CCG1205- -T
R9121
SS
220
MON_OUT_L
4-D6
to OWN


20
MON_OUT_R
19
MON_OUT_L
16
HP_R
R9159
SS
33K
R9160
SS
33K
V+12V_AU
C9155
YB
SS
6800P/25
4dB Amp
MONITOR_OUT


C9153
10/16
DCH1165- -T
GND
R9151
SS
47K
R9153
SS
56K
C9157
CH
SS
15P/50
IC9151
BA4560RF-TBB
A OUTPUT
A-INPUT
A+INPUT
V-
V+
B OUTPUT
B-INPUT
B+INPUT
C9158
CH
SS
15P/50
R9152
SS
47K
R9154
SS
56K
C9154
10/16
DCH1165- -T
GND
R9155
SS
100K
R9157
SS
56K
C9151
10/10
DCH1201- -T
GND
R9158
SS
56K
C9152
10/10
DCH1201- -T
R9156
SS
100K
GND
MON_OUT_R
4-C4
MON_OUT_L
4-C4
from OWN

SP:9101-9200

ESERVE (EU)		
9104-R9110	C9108	TP9102
9114	C9130	TP9106-TP9108
	C9139-C9140	TP9119-TP9120
9124	C9149-C9150	TP9121-TP9130
9127-R9130		TP9131-TP9133
9140		TP9135-TP9138
		TP9140-TP9150

4dBAmp:9151-9180

RESERVE

R9161-R9180

C9156
C9159-C9180
TP9151-TP9180

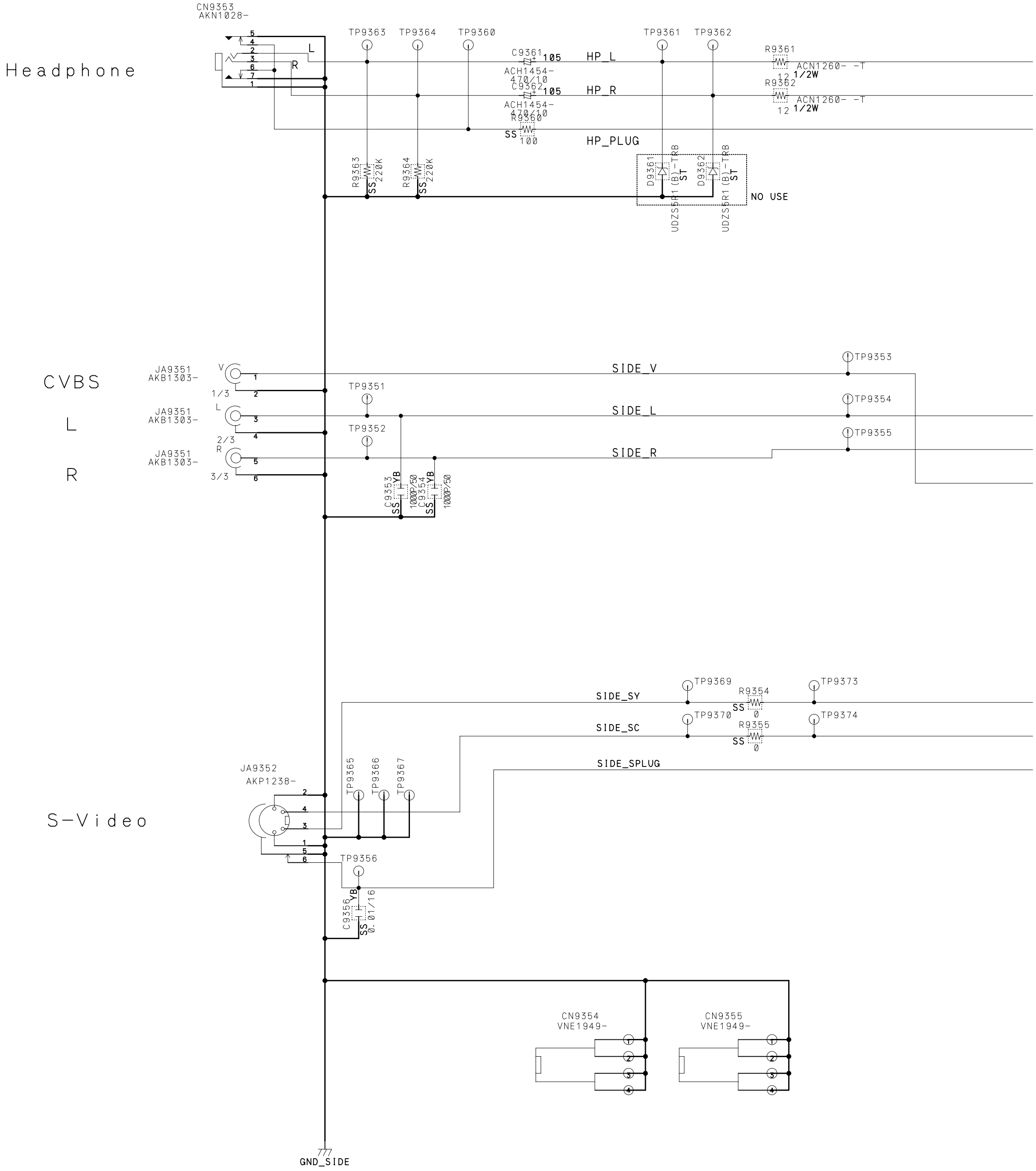
RS
ed in Ω, ±5%, 1/16W Tolerance
therwise noted, k:kΩ, M:MΩ.
ORS
ed in Capacity(µF)/Voltage(V)
therwise noted. p:pF
on without voltage is 50V
lectrolytic capacitor.

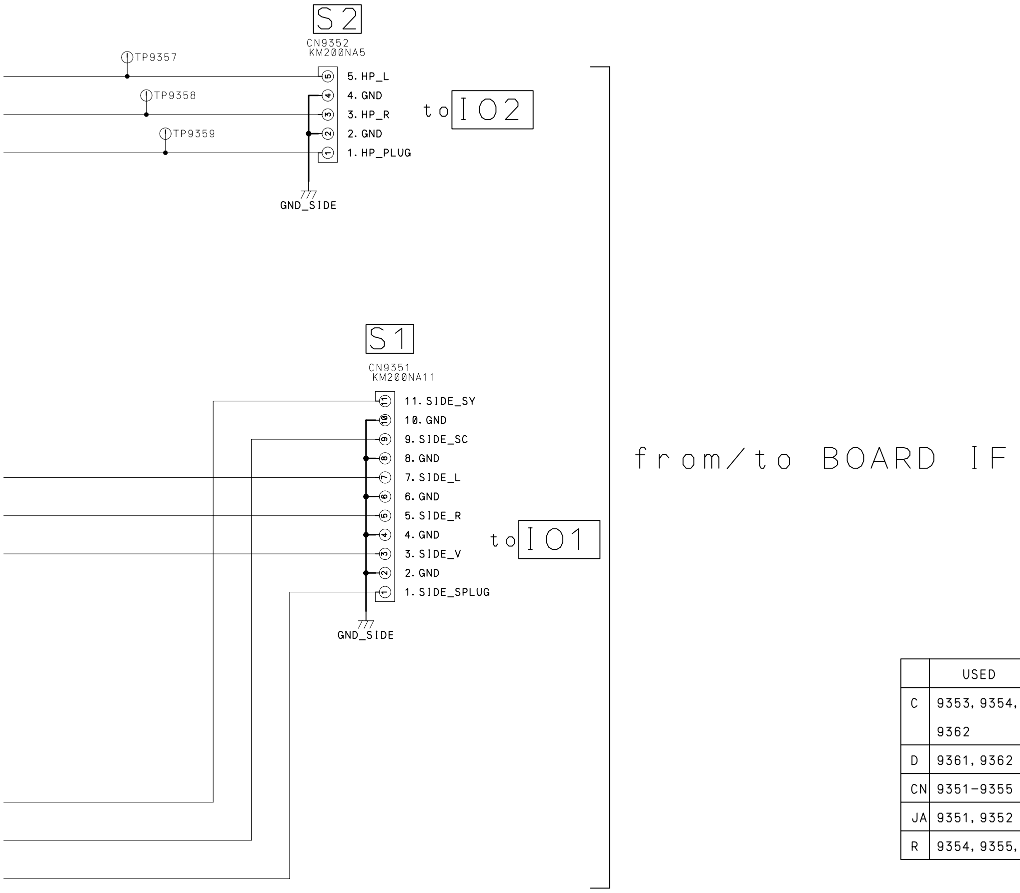
ark found on some component parts
e replaced with same parts(safety
on authorized) of identical designation.

FUKUGO ASS'Y (IBD) (4/8)
TANSHI ASS'Y
MSP

AWV2488-
AWW1255
A04W1255

9.25 SIDE IO ASSY


Headphone
CN9353
AKN1028-
5
4
2
3
6
7
1
L
R
TP9363
TP9364
TP9360
C9361
105
ACH1454-
470/10
C9362
105
ACH1454-
470/10
R9360
SS
100
HP_L
HP_R
HP_PLUG
TP9361
TP9362
R9361
12
ACN1260- -T
1/2W
R9362
12
ACN1260- -T
1/2W
R9363
SS
220K
R9364
SS
220K
D9361
UDZS5R1(B)-TRB
ST
D9362
UDZS5R1(B)-TRB
ST
NO USE
CVBS
L
R
JA9351
AKB1303-
V
1/3
JA9351
AKB1303-
L
2/3
JA9351
AKB1303-
R
3/3
1
2
3
4
5
6
TP9351
TP9352
SIDE_V
SIDE_L
SIDE_R
TP9353
TP9354
TP9355
C9353
SS
YB
1000P/50
C9354
SS
YB
1000P/50
SIDE_SY
SIDE_SC
SIDE_SPLUG
TP9369
TP9370
R9354
SS
0
R9355
SS
0
TP9373
TP9374
JA9352
AKP1238-
S-Video
2
4
3
1
5
6
TP9365
TP9366
TP9367
TP9356
C9356
SS
YB
0.01/16
CN9354
VNE1949-
CN9355
VNE1949-
1
2
3
4
GND_SIDE


S2
CN9352
KM200NA5
TP9357
TP9358
TP9359
5. HP_L
4. GND
3. HP_R
2. GND
1. HP_PLUG
GND_SIDE
to IO2
S1
CN9351
KM200NA11
11. SIDE_SY
10. GND
9. SIDE_SC
8. GND
7. SIDE_L
6. GND
5. SIDE_R
4. GND
3. SIDE_V
2. GND
1. SIDE_SPLUG
GND_SIDE
to IO1
from/to BOARD IF

	USED	VACANT
C	9353, 9354, 9356, 9361, 9362	
D	9361, 9362	9361, 9362
CN	9351-9355	
JA	9351, 9352	
R	9354, 9355, 9360-9364	

NOTES

RESISTORS	CAPACITORS
RS1/16S∗∗∗J-T	SS YB CKSSYB∗∗∗K∗∗-T
SS RS1/16SS∗∗∗J-T	
F SS RS1/16SS∗∗∗∗F-T	

∗ RESISTORS
Indicated in Ω, ±5%, 1/16W Tolerance unless otherwise noted, k : kΩ, M : MΩ.

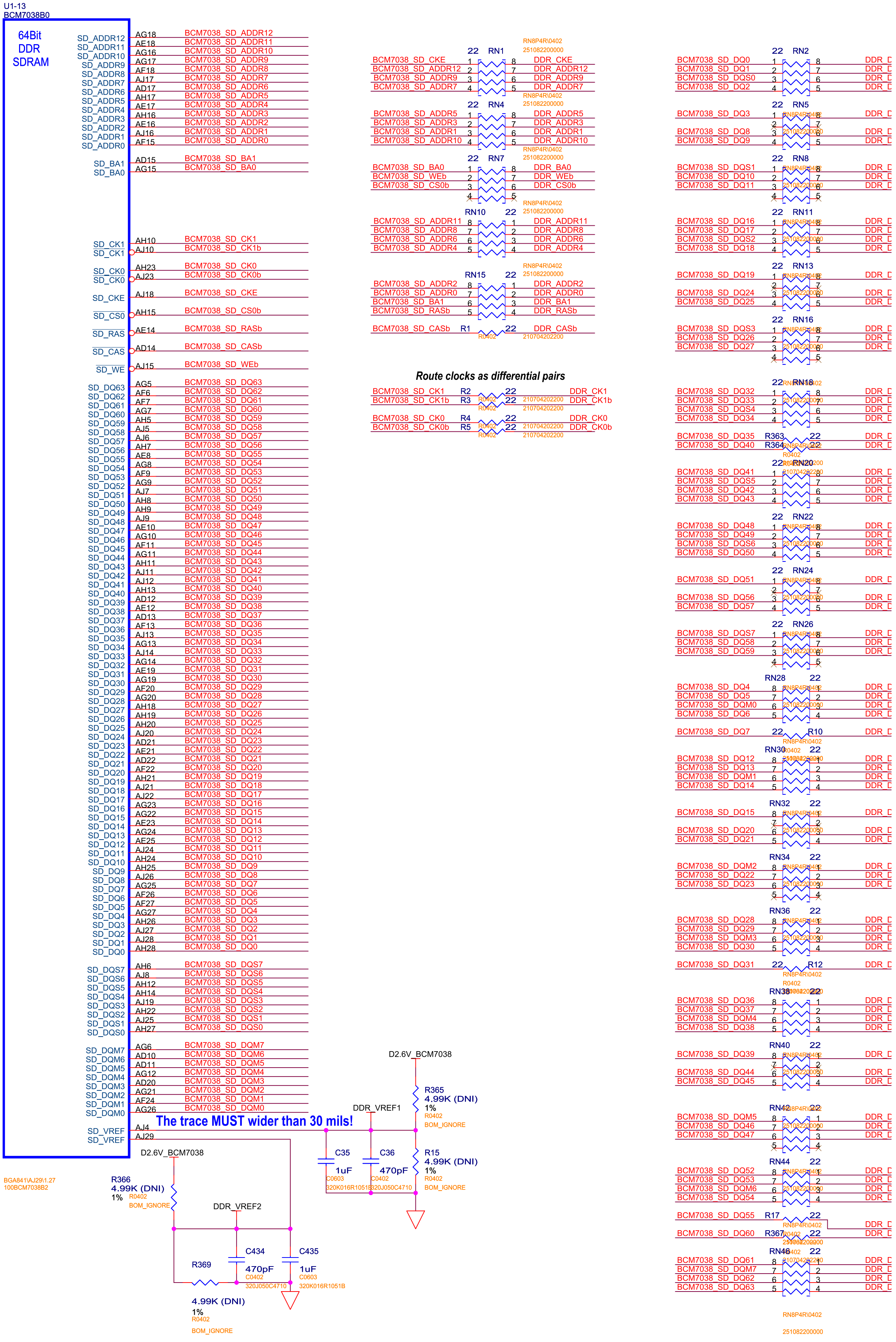
∗ CAPACITORS
Indicated in Capacity (μF) / Voltage (V) unless otherwise noted. p : pF
Indication without voltage is 50V except electrolytic capacitor.

The ⚠ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.

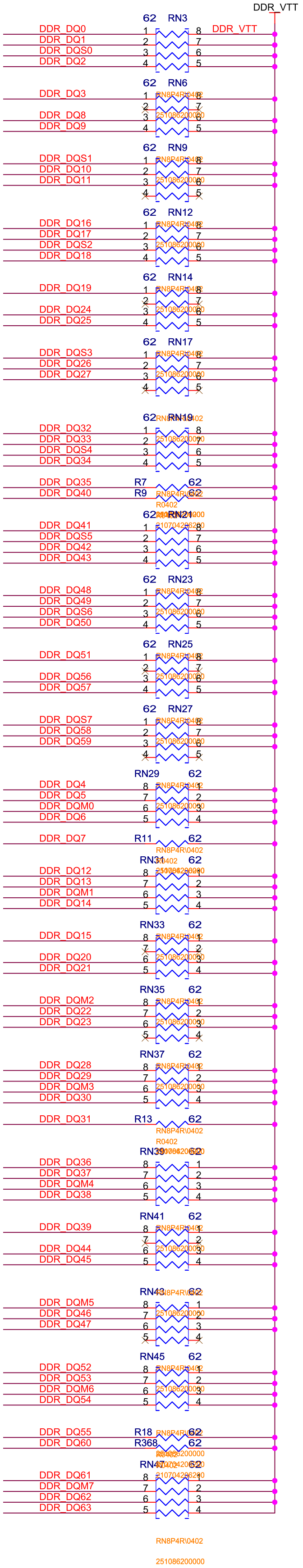
FUKUGO ASS'Y (IBD) (6/8)
SIDE IO ASS'Y

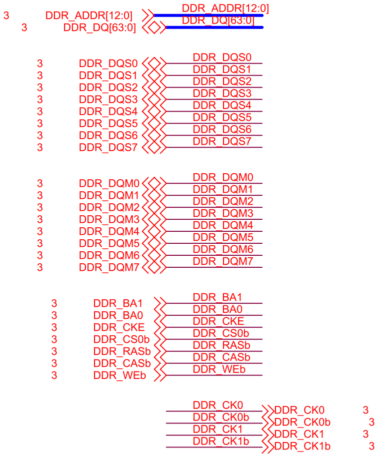
AWV2488-
AWW1259

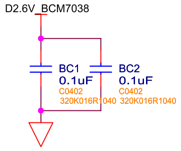
9.26 DTV TUNER BOARD (1/16) [DDR TERM/CONN BLOCK]

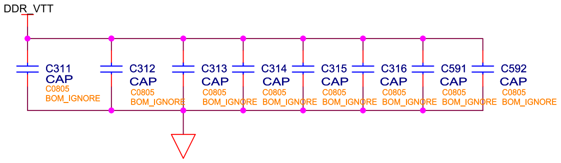


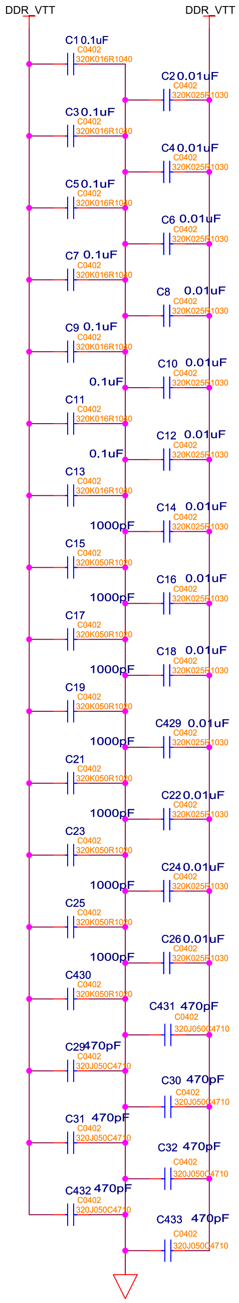
U1-13
BCM7038B0
64Bit DDR SDRAM
SD_ADDR12 AG18 BCM7038_SD_ADDR12
SD_ADDR11 AE18 BCM7038_SD_ADDR11
SD_ADDR10 AG16 BCM7038_SD_ADDR10
SD_ADDR9 AG17 BCM7038_SD_ADDR9
SD_ADDR8 AF18 BCM7038_SD_ADDR8
SD_ADDR7 AJ17 BCM7038_SD_ADDR7
SD_ADDR6 AD17 BCM7038_SD_ADDR6
SD_ADDR5 AH17 BCM7038_SD_ADDR5
SD_ADDR4 AF17 BCM7038_SD_ADDR4
SD_ADDR3 AH16 BCM7038_SD_ADDR3
SD_ADDR2 AE16 BCM7038_SD_ADDR2
SD_ADDR1 AJ16 BCM7038_SD_ADDR1
SD_ADDR0 AF15 BCM7038_SD_ADDR0
SD_BA1 AD15 BCM7038_SD_BA1
SD_BA0 AG15 BCM7038_SD_BA0
SD_CK1 AH10 BCM7038_SD_CK1
SD_CK1 AJ10 BCM7038_SD_CK1b
SD_CK0 AH23 BCM7038_SD_CK0
SD_CK0 AJ23 BCM7038_SD_CK0b
SD_CKE AJ18 BCM7038_SD_CKE
SD_CS0 AH15 BCM7038_SD_CS0b
SD_RAS AE14 BCM7038_SD_RASb
SD_CAS AD14 BCM7038_SD_CASb
SD_WE AJ15 BCM7038_SD_WEb
SD_DQ63 AG5 BCM7038_SD_DQ63
SD_DQ62 AF6 BCM7038_SD_DQ62
SD_DQ61 AF7 BCM7038_SD_DQ61
SD_DQ60 AG7 BCM7038_SD_DQ60
SD_DQ59 AH5 BCM7038_SD_DQ59
SD_DQ58 AJ5 BCM7038_SD_DQ58
SD_DQ57 AJ6 BCM7038_SD_DQ57
SD_DQ56 AH7 BCM7038_SD_DQ56
SD_DQ55 AE8 BCM7038_SD_DQ55
SD_DQ54 AG8 BCM7038_SD_DQ54
SD_DQ53 AF9 BCM7038_SD_DQ53
SD_DQ52 AG9 BCM7038_SD_DQ52
SD_DQ51 AJ7 BCM7038_SD_DQ51
SD_DQ50 AH8 BCM7038_SD_DQ50
SD_DQ49 AH9 BCM7038_SD_DQ49
SD_DQ48 AJ9 BCM7038_SD_DQ48
SD_DQ47 AE10 BCM7038_SD_DQ47
SD_DQ46 AG10 BCM7038_SD_DQ46
SD_DQ45 AF11 BCM7038_SD_DQ45
SD_DQ44 AG11 BCM7038_SD_DQ44
SD_DQ43 AH11 BCM7038_SD_DQ43
SD_DQ42 AJ11 BCM7038_SD_DQ42
SD_DQ41 AJ12 BCM7038_SD_DQ41
SD_DQ40 AH13 BCM7038_SD_DQ40
SD_DQ39 AD12 BCM7038_SD_DQ39
SD_DQ38 AE12 BCM7038_SD_DQ38
SD_DQ37 AD13 BCM7038_SD_DQ37
SD_DQ36 AF13 BCM7038_SD_DQ36
SD_DQ35 AJ13 BCM7038_SD_DQ35
SD_DQ34 AG13 BCM7038_SD_DQ34
SD_DQ33 AJ14 BCM7038_SD_DQ33
SD_DQ32 AG14 BCM7038_SD_DQ32
SD_DQ31 AE19 BCM7038_SD_DQ31
SD_DQ30 AG19 BCM7038_SD_DQ30
SD_DQ29 AF20 BCM7038_SD_DQ29
SD_DQ28 AG20 BCM7038_SD_DQ28
SD_DQ27 AH18 BCM7038_SD_DQ27
SD_DQ26 AH19 BCM7038_SD_DQ26
SD_DQ25 AH20 BCM7038_SD_DQ25
SD_DQ24 AJ20 BCM7038_SD_DQ24
SD_DQ23 AD21 BCM7038_SD_DQ23
SD_DQ22 AE21 BCM7038_SD_DQ22
SD_DQ21 AD22 BCM7038_SD_DQ21
SD_DQ20 AF22 BCM7038_SD_DQ20
SD_DQ19 AH21 BCM7038_SD_DQ19
SD_DQ18 AJ21 BCM7038_SD_DQ18
SD_DQ17 AJ22 BCM7038_SD_DQ17
SD_DQ16 AG23 BCM7038_SD_DQ16
SD_DQ15 AG22 BCM7038_SD_DQ15
SD_DQ14 AE23 BCM7038_SD_DQ14
SD_DQ13 AG24 BCM7038_SD_DQ13
SD_DQ12 AE25 BCM7038_SD_DQ12
SD_DQ11 AJ24 BCM7038_SD_DQ11
SD_DQ10 AH24 BCM7038_SD_DQ10
SD_DQ9 AH25 BCM7038_SD_DQ9
SD_DQ8 AJ26 BCM7038_SD_DQ8
SD_DQ7 AG25 BCM7038_SD_DQ7
SD_DQ6 AF26 BCM7038_SD_DQ6
SD_DQ5 AF27 BCM7038_SD_DQ5
SD_DQ4 AG27 BCM7038_SD_DQ4
SD_DQ3 AH26 BCM7038_SD_DQ3
SD_DQ2 AJ27 BCM7038_SD_DQ2
SD_DQ1 AJ28 BCM7038_SD_DQ1
SD_DQ0 AH28 BCM7038_SD_DQ0
SD_DQS7 AH6 BCM7038_SD_DQS7
SD_DQS6 AJ8 BCM7038_SD_DQS6
SD_DQS5 AH12 BCM7038_SD_DQS5
SD_DQS4 AH14 BCM7038_SD_DQS4
SD_DQS3 AJ19 BCM7038_SD_DQS3
SD_DQS2 AH22 BCM7038_SD_DQS2
SD_DQS1 AJ25 BCM7038_SD_DQS1
SD_DQS0 AH27 BCM7038_SD_DQS0
SD_DQM7 AG6 BCM7038_SD_DQM7
SD_DQM6 AD10 BCM7038_SD_DQM6
SD_DQM5 AD11 BCM7038_SD_DQM5
SD_DQM4 AG12 BCM7038_SD_DQM4
SD_DQM3 AD20 BCM7038_SD_DQM3
SD_DQM2 AG21 BCM7038_SD_DQM2
SD_DQM1 AF24 BCM7038_SD_DQM1
SD_DQM0 AG26 BCM7038_SD_DQM0
SD_VREF AJ4
SD_VREF AJ29
BGA841\AJ29\1.27
100BCM7038B2
The trace MUST wider than 30 mils!
RN8P4R\0402
251082200000
22 RN1
BCM7038_SD_CKE DDR_CKE
BCM7038_SD_ADDR12 DDR_ADDR12
BCM7038_SD_ADDR9 DDR_ADDR9
BCM7038_SD_ADDR7 DDR_ADDR7
22 RN4
BCM7038_SD_ADDR5 DDR_ADDR5
BCM7038_SD_ADDR3 DDR_ADDR3
BCM7038_SD_ADDR1 DDR_ADDR1
BCM7038_SD_ADDR10 DDR_ADDR10
22 RN7
BCM7038_SD_BA0 DDR_BA0
BCM7038_SD_WEb DDR_WEb
BCM7038_SD_CS0b DDR_CS0b
RN10 22
BCM7038_SD_ADDR11 DDR_ADDR11
BCM7038_SD_ADDR8 DDR_ADDR8
BCM7038_SD_ADDR6 DDR_ADDR6
BCM7038_SD_ADDR4 DDR_ADDR4
RN15 22
BCM7038_SD_ADDR2 DDR_ADDR2
BCM7038_SD_ADDR0 DDR_ADDR0
BCM7038_SD_BA1 DDR_BA1
BCM7038_SD_RASb DDR_RASb
BCM7038_SD_CASb R1 22 DDR_CASb
R0402
210704202200
Route clocks as differential pairs
BCM7038_SD_CK1 R2 22 DDR_CK1
BCM7038_SD_CK1b R3 22 DDR_CK1b
BCM7038_SD_CK0 R4 22 DDR_CK0
BCM7038_SD_CK0b R5 22 DDR_CK0b
D2.6V_BCM7038
R365
4.99K (DNI)
1%
R0402
BOM_IGNORE
DDR_VREF1
C35
1uF
C0603
320K016R1051B
C36
470pF
C0402
320J050C4710
R15
4.99K (DNI)
1%
R0402
BOM_IGNORE
D2.6V_BCM7038
R366
4.99K (DNI)
1%
R0402
BOM_IGNORE
DDR_VREF2
C434
470pF
C0402
320J050C4710
C435
1uF
C0603
320K016R1051B
R369
4.99K (DNI)
1%
R0402
BOM_IGNORE
22 RN2
BCM7038_SD_DQ0
BCM7038_SD_DQ1
BCM7038_SD_DQS0
BCM7038_SD_DQ2
22 RN5
BCM7038_SD_DQ3
BCM7038_SD_DQ8
BCM7038_SD_DQ9
22 RN8
BCM7038_SD_DQS1
BCM7038_SD_DQ10
BCM7038_SD_DQ11
22 RN11
BCM7038_SD_DQ16
BCM7038_SD_DQ17
BCM7038_SD_DQS2
BCM7038_SD_DQ18
22 RN13
BCM7038_SD_DQ19
BCM7038_SD_DQ24
BCM7038_SD_DQ25
22 RN16
BCM7038_SD_DQS3
BCM7038_SD_DQ26
BCM7038_SD_DQ27
22 RN18
BCM7038_SD_DQ32
BCM7038_SD_DQ33
BCM7038_SD_DQS4
BCM7038_SD_DQ34
BCM7038_SD_DQ35 R363 22
BCM7038_SD_DQ40 R364 22
22 RN20
BCM7038_SD_DQ41
BCM7038_SD_DQS5
BCM7038_SD_DQ42
BCM7038_SD_DQ43
22 RN22
BCM7038_SD_DQ48
BCM7038_SD_DQ49
BCM7038_SD_DQS6
BCM7038_SD_DQ50
22 RN24
BCM7038_SD_DQ51
BCM7038_SD_DQ56
BCM7038_SD_DQ57
22 RN26
BCM7038_SD_DQS7
BCM7038_SD_DQ58
BCM7038_SD_DQ59
RN28 22
BCM7038_SD_DQ4
BCM7038_SD_DQ5
BCM7038_SD_DQM0
BCM7038_SD_DQ6
BCM7038_SD_DQ7 22 R10
RN30 22
BCM7038_SD_DQ12
BCM7038_SD_DQ13
BCM7038_SD_DQM1
BCM7038_SD_DQ14
RN32 22
BCM7038_SD_DQ15
BCM7038_SD_DQ20
BCM7038_SD_DQ21
RN34 22
BCM7038_SD_DQM2
BCM7038_SD_DQ22
BCM7038_SD_DQ23
RN36 22
BCM7038_SD_DQ28
BCM7038_SD_DQ29
BCM7038_SD_DQM3
BCM7038_SD_DQ30
BCM7038_SD_DQ31 22 R12
RN38 22
BCM7038_SD_DQ36
BCM7038_SD_DQ37
BCM7038_SD_DQM4
BCM7038_SD_DQ38
RN40 22
BCM7038_SD_DQ39
BCM7038_SD_DQ44
BCM7038_SD_DQ45
RN42 22
BCM7038_SD_DQM5
BCM7038_SD_DQ46
BCM7038_SD_DQ47
RN44 22
BCM7038_SD_DQ52
BCM7038_SD_DQ53
BCM7038_SD_DQM6
BCM7038_SD_DQ54
BCM7038_SD_DQ55 R17 22
BCM7038_SD_DQ60 R367 22
RN46 22
BCM7038_SD_DQ61
BCM7038_SD_DQM7
BCM7038_SD_DQ62
BCM7038_SD_DQ63
RN8P4R\0402
251082200000


DDR_VTT
RN3 62
DDR_DQ0
DDR_DQ1
DDR_DQS0
DDR_DQ2
RN6 62
DDR_DQ3
DDR_DQ8
DDR_DQ9
RN9 62
DDR_DQS1
DDR_DQ10
DDR_DQ11
RN12 62
DDR_DQ16
DDR_DQ17
DDR_DQS2
DDR_DQ18
RN14 62
DDR_DQ19
DDR_DQ24
DDR_DQ25
RN17 62
DDR_DQS3
DDR_DQ26
DDR_DQ27
RN19 62
DDR_DQ32
DDR_DQ33
DDR_DQS4
DDR_DQ34
R7 62
DDR_DQ35
R9 62
DDR_DQ40
RN21 62
DDR_DQ41
DDR_DQS5
DDR_DQ42
DDR_DQ43
RN23 62
DDR_DQ48
DDR_DQ49
DDR_DQS6
DDR_DQ50
RN25 62
DDR_DQ51
DDR_DQ56
DDR_DQ57
RN27 62
DDR_DQS7
DDR_DQ58
DDR_DQ59
RN29 62
DDR_DQ4
DDR_DQ5
DDR_DQM0
DDR_DQ6
R11 62
DDR_DQ7
RN31 62
DDR_DQ12
DDR_DQ13
DDR_DQM1
DDR_DQ14
RN33 62
DDR_DQ15
DDR_DQ20
DDR_DQ21
RN35 62
DDR_DQM2
DDR_DQ22
DDR_DQ23
RN37 62
DDR_DQ28
DDR_DQ29
DDR_DQM3
DDR_DQ30
R13 62
DDR_DQ31
RN39 62
DDR_DQ36
DDR_DQ37
DDR_DQM4
DDR_DQ38
RN41 62
DDR_DQ39
DDR_DQ44
DDR_DQ45
RN43 62
DDR_DQM5
DDR_DQ46
DDR_DQ47
RN45 62
DDR_DQ52
DDR_DQ53
DDR_DQM6
DDR_DQ54
R18 62
DDR_DQ55
R368 62
DDR_DQ60
RN47 62
DDR_DQ61
DDR_DQM7
DDR_DQ62
DDR_DQ63
RN8P4R0402
251086200000


3 DDR_ADDR[12:0]
3 DDR_DQ[63:0]
DDR_ADDR[12:0]
DDR_DQ[63:0]
3 DDR_DQS0 … DDR_DQS7
3 DDR_DQM0 … DDR_DQM7
3 DDR_BA1
3 DDR_BA0
3 DDR_CKE
3 DDR_CS0b
3 DDR_RASb
3 DDR_CASb
3 DDR_WEb
DDR_CK0 3
DDR_CK0b 3
DDR_CK1 3
DDR_CK1b 3


D2.6V_BCM7038
BC1 0.1uF C0402 320K016R1040
BC2 0.1uF C0402 320K016R1040


DDR_VTT
C311 CAP
C312 CAP
C313 CAP
C314 CAP
C315 CAP
C316 CAP
C591 CAP
C592 CAP
C0805
BOM_IGNORE


DDR_VTT
DDR_VTT
C1 0.1uF
C2 0.01uF
C3 0.1uF
C4 0.01uF
C5 0.1uF
C6 0.01uF
C7 0.1uF
C8 0.01uF
C9 0.1uF
C10 0.01uF
C11 0.1uF
C12 0.01uF
C13 0.1uF
C14 0.01uF
C15 1000pF
C16 0.01uF
C17 1000pF
C18 0.01uF
C19 1000pF
C429 0.01uF
C21 1000pF
C22 0.01uF
C23 1000pF
C24 0.01uF
C25 1000pF
C26 0.01uF
C430 1000pF
C431 470pF
C29 470pF
C30 470pF
C31 470pF
C32 470pF
C432 470pF
C433 470pF
C0402
320K016R1040
320K025F1030
320K050R1020
320J050C4710

New DDR routing rules:

All timing is relative the CLK/CLKb that arrive at the destination DDR SDRAM chip.

1) X = CLK/CLKb should be a matched differential pair with a length < 4"

2) Address and control should be X +/- 0.75" (or 100 ps)
3) DQS and DQM should be X +/- 0.75" (or 100 ps)
4) All DQs should match corresponding byte lane DQS/DQMs within +/- 0.20" (or 30 ps)

5) Place 22 ohm resisters on this page near BCM7038.

6) Place 62 ohm resisters for DQ signals midpoint between BCM7038 and DDR SDRAM

7) Place DDR_VREF1/2 resistor dividers near BCM7038

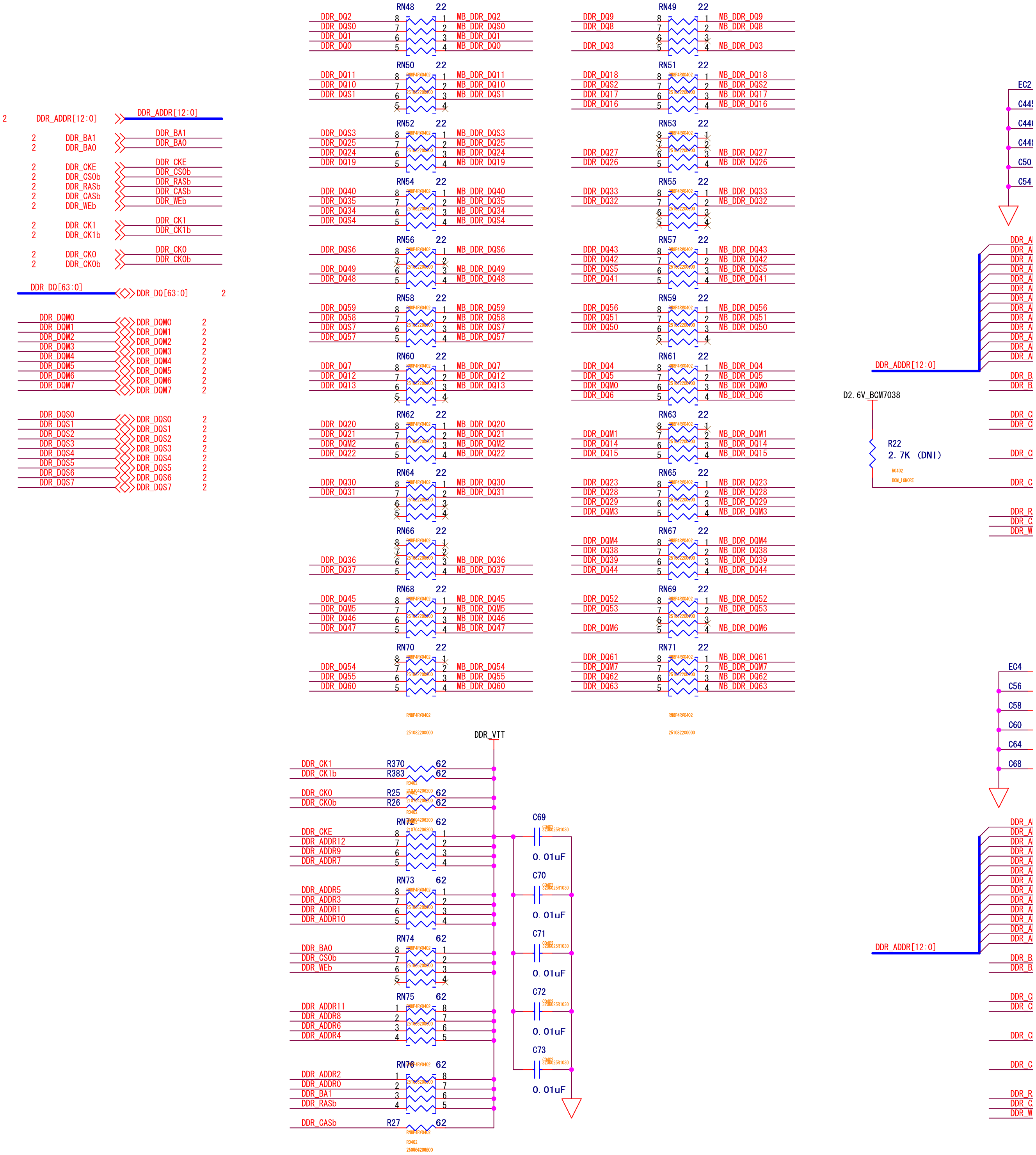
8) Trace impedances need to be 60 ohms +/- 10% (54-66 ohms)

9) Route VREF with 30-mil trace and at least 1 high quality ceramic bypass capacitor for each connection to a device.

10) All traces should have a >= 3 to 1 spacing ratio fom the reference GND/PWR layer. (e.g. 15 mil line-to-line spacing for a 5 mil dielectric thickness)

DDR TERM/CONN

9.27 DTV TUNER BOARD (2/16) [DDR-SDRAM BLOCK]



DDR_ADDR[12:0]
DDR_BA1
DDR_BA0
DDR_CKE
DDR_CSOb
DDR_RASb
DDR_CASb
DDR_WEb
DDR_CK1
DDR_CK1b
DDR_CK0
DDR_CK0b
DDR_DQ[63:0]
DDR_DQM0
DDR_DQM1
DDR_DQM2
DDR_DQM3
DDR_DQM4
DDR_DQM5
DDR_DQM6
DDR_DQM7
DDR_DQS0
DDR_DQS1
DDR_DQS2
DDR_DQS3
DDR_DQS4
DDR_DQS5
DDR_DQS6
DDR_DQS7
RN48 22
RN49 22
RN50 22
RN51 22
RN52 22
RN53 22
RN54 22
RN55 22
RN56 22
RN57 22
RN58 22
RN59 22
RN60 22
RN61 22
RN62 22
RN63 22
RN64 22
RN65 22
RN66 22
RN67 22
RN68 22
RN69 22
RN70 22
RN71 22
MB_DDR_DQ2
MB_DDR_DQS0
MB_DDR_DQ1
MB_DDR_DQ0
MB_DDR_DQ9
MB_DDR_DQ8
MB_DDR_DQ3
DDR_VTT
R370 62
R383 62
R25 62
R26 62
RN72 62
RN73 62
RN74 62
RN75 62
RN76 62
R27 62
C69 0.01uF
C70 0.01uF
C71 0.01uF
C72 0.01uF
C73 0.01uF
D2.6V_BCM7038
R22
2.7K (DNI)
EC2
C445
C446
C448
C50
C54
EC4
C56
C58
C60
C64
C68

DDR routing rules:

----

1) DQ/DQM skew within byte lane (DQ[15:0], DQ[31:16], DQ[47:32], DQ[48:63]) should be +/-100 mil w.r.t DQS

2) DQS delay for a particular bytelane shall be +/-250 mil w.r.t clk

3) DQS skew across all bytelanes should be less than 250 mil

4) Address & cntrl shall be +/-500 mil w.r.t clk

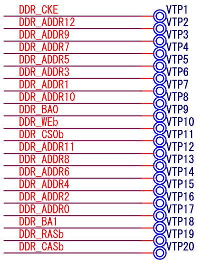
5) Place 22 ohm resisters on this page near DDR SDRAM.

6) Place 51 ohm resisters for Addr/Cntrl signals at the end of the line near the DDR SDRAM

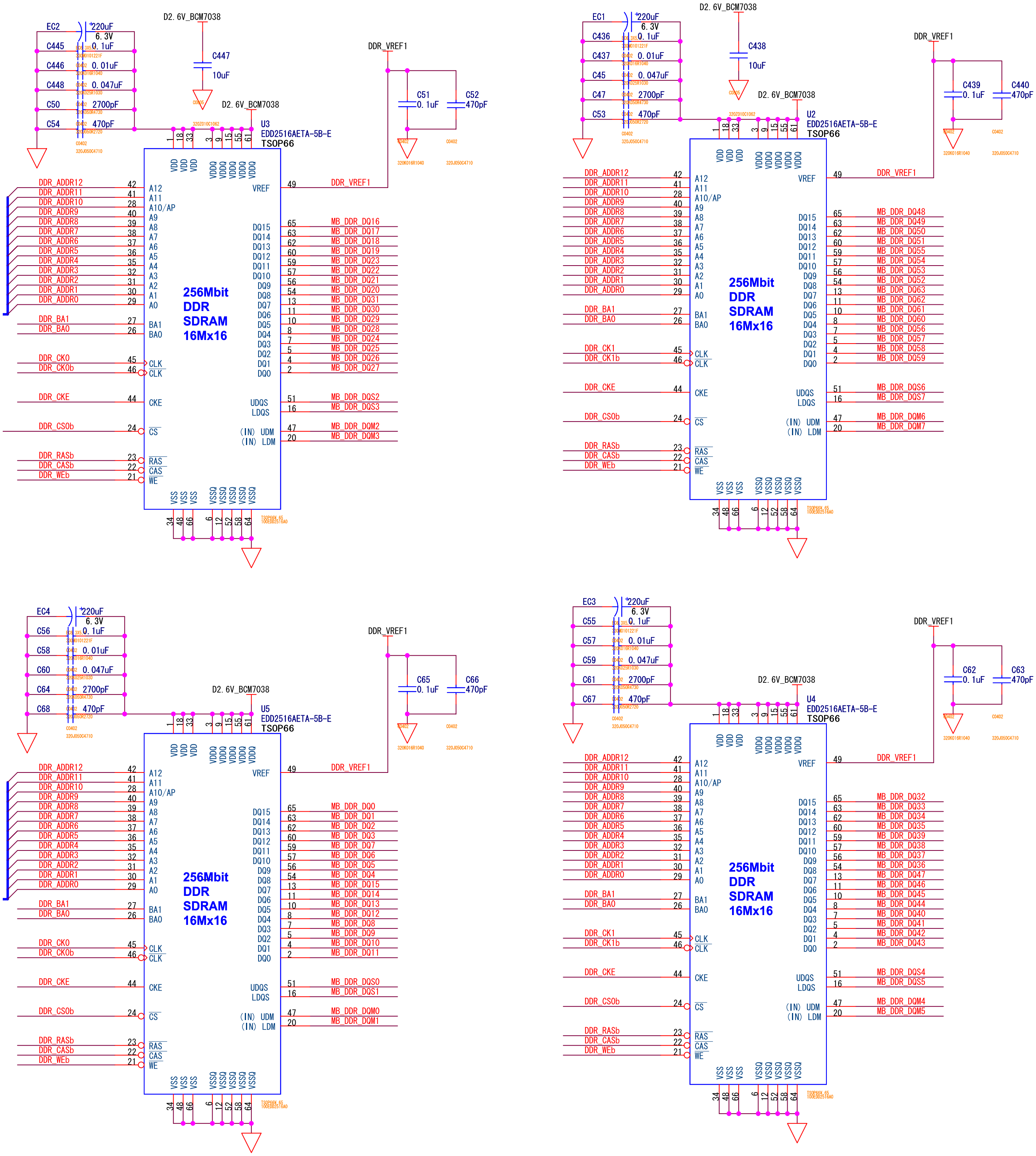
7) Place DDR_VREF resistor dividers near BCM7038

8) Trace impedances need to be 60 ohms +/- 10% (54-66 ohms)

9) Route VREF with 30-mil trace and 1 high quality ceramic bypass capacitor for each connection to a device.

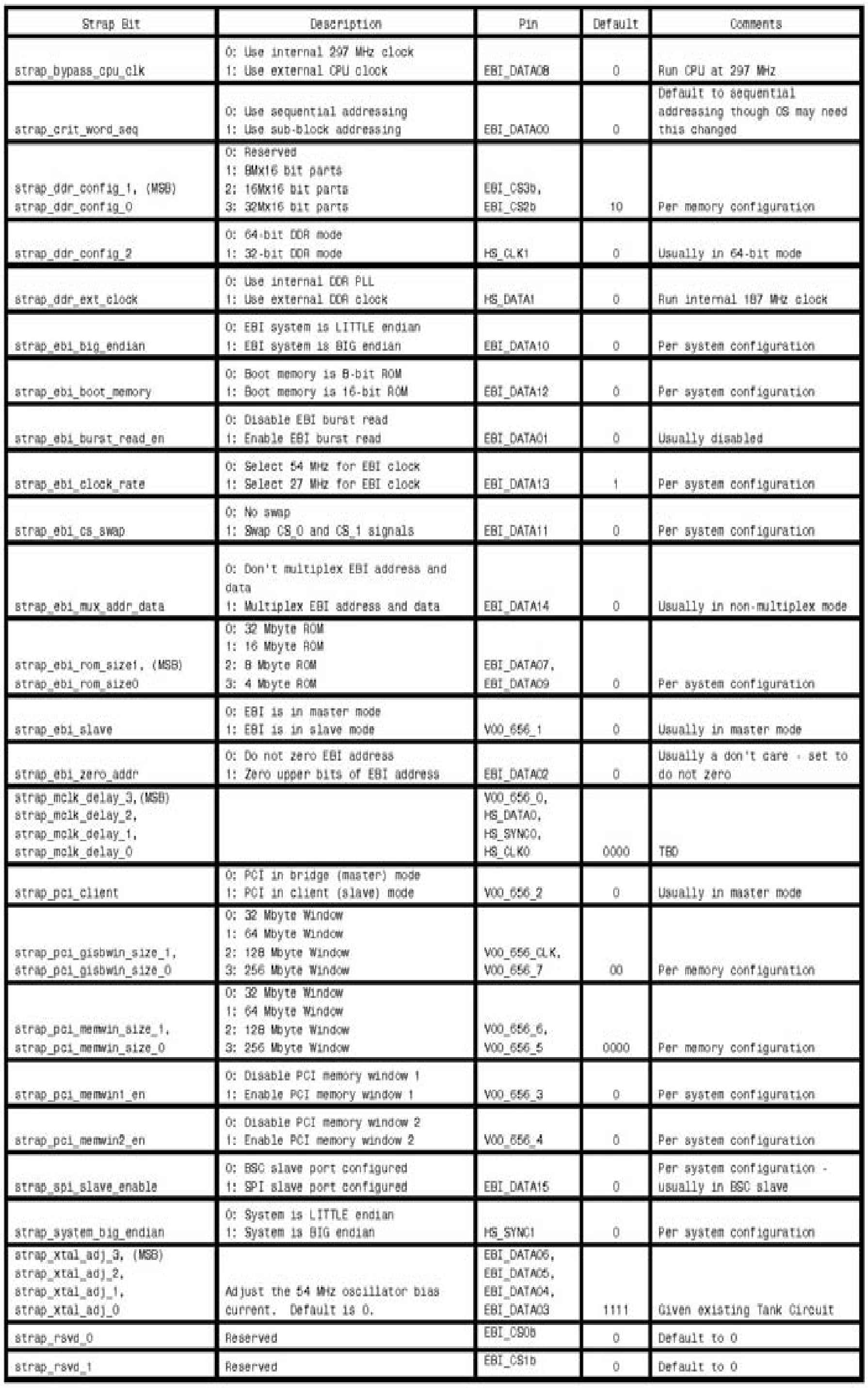


DDR_CKE VTP1
DDR_ADDR12 VTP2
DDR_ADDR9 VTP3
DDR_ADDR7 VTP4
DDR_ADDR5 VTP5
DDR_ADDR3 VTP6
DDR_ADDR1 VTP7
DDR_ADDR10 VTP8
DDR_BA0 VTP9
DDR_WEb VTP10
DDR_CSOb VTP11
DDR_ADDR11 VTP12
DDR_ADDR8 VTP13
DDR_ADDR6 VTP14
DDR_ADDR4 VTP15
DDR_ADDR2 VTP16
DDR_ADDR0 VTP17
DDR_BA1 VTP18
DDR_RASb VTP19
DDR_CASb VTP20

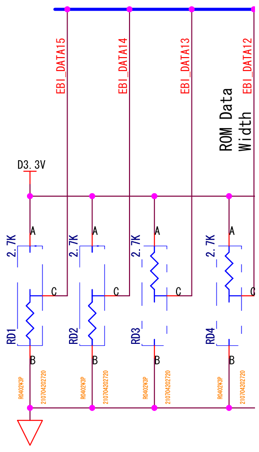

EC2
220uF
6.3V
C445
0.1uF
C446
0.01uF
C448
0.047uF
C50
2700pF
C54
470pF
D2.6V_BCM7038
C447
10uF
DDR_VREF1
C51
0.1uF
C52
470pF
U3
EDD2516AETA-5B-E
TSOP66
VDD
VDDQ
VREF
256Mbit
DDR
SDRAM
16Mx16
DDR_ADDR12
DDR_ADDR11
DDR_ADDR10
DDR_ADDR9
DDR_ADDR8
DDR_ADDR7
DDR_ADDR6
DDR_ADDR5
DDR_ADDR4
DDR_ADDR3
DDR_ADDR2
DDR_ADDR1
DDR_ADDR0
DDR_BA1
DDR_BA0
DDR_CK0
DDR_CK0b
DDR_CKE
DDR_CS0b
DDR_RASb
DDR_CASb
DDR_WEb
A12
A11
A10/AP
A9
A8
A7
A6
A5
A4
A3
A2
A1
A0
BA1
BA0
CLK
CLK
CKE
CS
RAS
CAS
WE
DQ15
DQ14
DQ13
DQ12
DQ11
DQ10
DQ9
DQ8
DQ7
DQ6
DQ5
DQ4
DQ3
DQ2
DQ1
DQ0
UDQS
LDQS
(IN) UDM
(IN) LDM
VSS
VSSQ
MB_DDR_DQ16
MB_DDR_DQ17
MB_DDR_DQ18
MB_DDR_DQ19
MB_DDR_DQ23
MB_DDR_DQ22
MB_DDR_DQ21
MB_DDR_DQ20
MB_DDR_DQ31
MB_DDR_DQ30
MB_DDR_DQ29
MB_DDR_DQ28
MB_DDR_DQ24
MB_DDR_DQ25
MB_DDR_DQ26
MB_DDR_DQ27
MB_DDR_DQS2
MB_DDR_DQS3
MB_DDR_DQM2
MB_DDR_DQM3
EC1
C436
C437
C45
C47
C53
C438
C439
C440
U2
DDR_CK1
DDR_CK1b
MB_DDR_DQ48
MB_DDR_DQ49
MB_DDR_DQ50
MB_DDR_DQ51
MB_DDR_DQ55
MB_DDR_DQ54
MB_DDR_DQ53
MB_DDR_DQ52
MB_DDR_DQ63
MB_DDR_DQ62
MB_DDR_DQ61
MB_DDR_DQ60
MB_DDR_DQ56
MB_DDR_DQ57
MB_DDR_DQ58
MB_DDR_DQ59
MB_DDR_DQS6
MB_DDR_DQS7
MB_DDR_DQM6
MB_DDR_DQM7
EC4
C56
C58
C60
C64
C68
C65
C66
U5
MB_DDR_DQ0
MB_DDR_DQ1
MB_DDR_DQ2
MB_DDR_DQ3
MB_DDR_DQ7
MB_DDR_DQ6
MB_DDR_DQ5
MB_DDR_DQ4
MB_DDR_DQ15
MB_DDR_DQ14
MB_DDR_DQ13
MB_DDR_DQ12
MB_DDR_DQ8
MB_DDR_DQ9
MB_DDR_DQ10
MB_DDR_DQ11
MB_DDR_DQS0
MB_DDR_DQS1
MB_DDR_DQM0
MB_DDR_DQM1
EC3
C55
C57
C59
C61
C67
C62
C63
U4
MB_DDR_DQ32
MB_DDR_DQ33
MB_DDR_DQ34
MB_DDR_DQ35
MB_DDR_DQ39
MB_DDR_DQ38
MB_DDR_DQ37
MB_DDR_DQ36
MB_DDR_DQ47
MB_DDR_DQ46
MB_DDR_DQ45
MB_DDR_DQ44
MB_DDR_DQ40
MB_DDR_DQ41
MB_DDR_DQ42
MB_DDR_DQ43
MB_DDR_DQS4
MB_DDR_DQS5
MB_DDR_DQM4
MB_DDR_DQM5

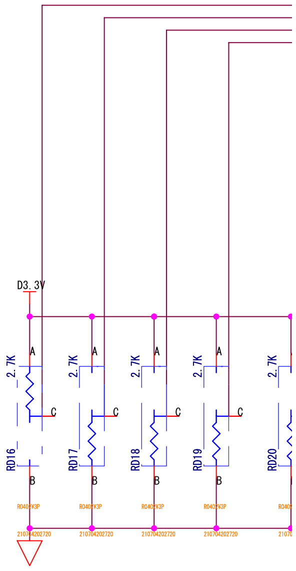
DDR-SDRAM

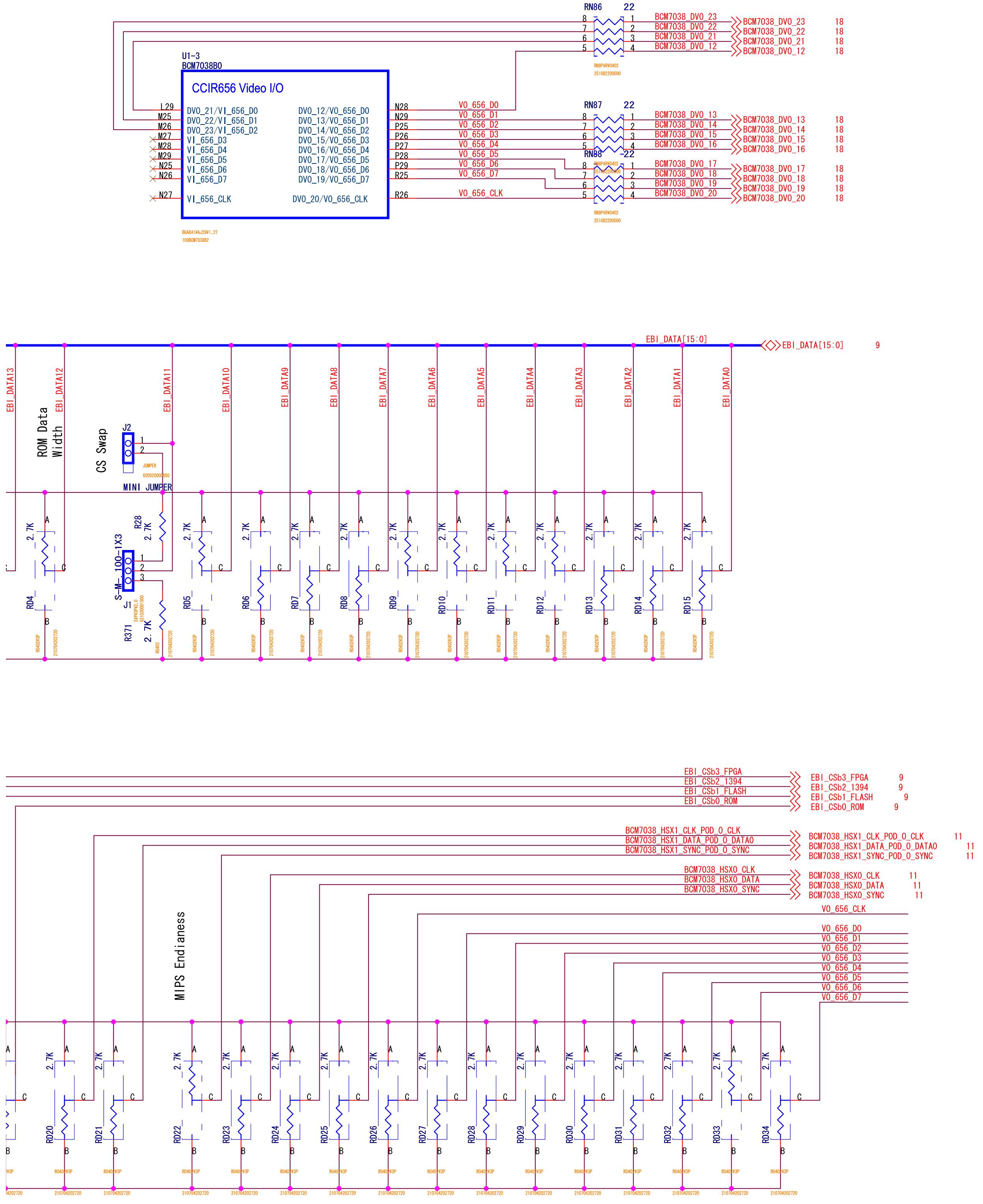
9.28 DTV TUNER BOARD (3/16) [DVO, PIN STRAPOPTION BLOCK]



Strap Bit	Description	Pin	Default	Comments
strap_bypass_cpu_clk	0: Use internal 297 MHz clock 1: Use external CPU clock	EBI_DATA08	0	Run CPU at 297 MHz
strap_crit_word_seq	0: Use sequential addressing 1: Use sub-block addressing	EBI_DATA00	0	Default to sequential addressing though OS may need this changed
strap_ddr_config_1, (MSB) strap_ddr_config_0	0: Reserved 1: 8Mx16 bit parts 2: 16Mx16 bit parts 3: 32Mx16 bit parts	EBI_CS3b, EBI_CS2b	10	Per memory configuration
strap_ddr_config_2	0: 64-bit DDR mode 1: 32-bit DDR mode	HS_CLK1	0	Usually in 64-bit mode
strap_ddr_ext_clock	0: Use internal DDR PLL 1: Use external DDR clock	HS_DATA1	0	Run internal 187 MHz clock
strap_ebi_big_endian	0: EBI system is LITTLE endian 1: EBI system is BIG endian	EBI_DATA10	0	Per system configuration
strap_ebi_boot_memory	0: Boot memory is 8-bit ROM 1: Boot memory is 16-bit ROM	EBI_DATA12	0	Per system configuration
strap_ebi_burst_read_en	0: Disable EBI burst read 1: Enable EBI burst read	EBI_DATA01	0	Usually disabled
strap_ebi_clock_rate	0: Select 54 MHz for EBI clock 1: Select 27 MHz for EBI clock	EBI_DATA13	1	Per system configuration
strap_ebi_cs_swap	0: No swap 1: Swap CS_0 and CS_1 signals	EBI_DATA11	0	Per system configuration
strap_ebi_mux_addr_data	0: Don't multiplex EBI address and data 1: Multiplex EBI address and data	EBI_DATA14	0	Usually in non-multiplex mode
strap_ebi_rom_size1, (MSB) strap_ebi_rom_size0	0: 32 Mbyte ROM 1: 16 Mbyte ROM 2: 8 Mbyte ROM 3: 4 Mbyte ROM	EBI_DATA07, EBI_DATA09	0	Per system configuration
strap_ebi_slave	0: EBI is in master mode 1: EBI is in slave mode	V00_656_1	0	Usually in master mode
strap_ebi_zero_addr	0: Do not zero EBI address 1: Zero upper bits of EBI address	EBI_DATA02	0	Usually a don't care - set to do not zero
strap_mclk_delay_3, (MSB) strap_mclk_delay_2, strap_mclk_delay_1, strap_mclk_delay_0		V00_656_0, HS_DATA0, HS_SYNC0, HS_CLK0	0000	TBD
strap_pci_client	0: PCI in bridge (master) mode 1: PCI in client (slave) mode	V00_656_2	0	Usually in master mode
strap_pci_gisbwin_size_1, strap_pci_gisbwin_size_0	0: 32 Mbyte Window 1: 64 Mbyte Window 2: 128 Mbyte Window 3: 256 Mbyte Window	V00_656_CLK, V00_656_7	00	Per memory configuration
strap_pci_memwin_size_1, strap_pci_memwin_size_0	0: 32 Mbyte Window 1: 64 Mbyte Window 2: 128 Mbyte Window 3: 256 Mbyte Window	V00_656_6, V00_656_5	0000	Per memory configuration
strap_pci_memwin1_en	0: Disable PCI memory window 1 1: Enable PCI memory window 1	V00_656_3	0	Per system configuration
strap_pci_memwin2_en	0: Disable PCI memory window 2 1: Enable PCI memory window 2	V00_656_4	0	Per system configuration
strap_spi_slave_enable	0: BSC slave port configured 1: SPI slave port configured	EBI_DATA15	0	Per system configuration - usually in BSC slave
strap_system_big_endian	0: System is LITTLE endian 1: System is BIG endian	HS_SYNC1	0	Per system configuration
strap_xtal_adj_3, (MSB) strap_xtal_adj_2, strap_xtal_adj_1, strap_xtal_adj_0	Adjust the 54 MHz oscillator bias current. Default is 0.	EBI_DATA06, EBI_DATA05, EBI_DATA04, EBI_DATA03	1111	Given existing Tank Circuit
strap_rsvd_0	Reserved	EBI_CS0b	0	Default to 0
strap_rsvd_1	Reserved	EBI_CS1b	0	Default to 0



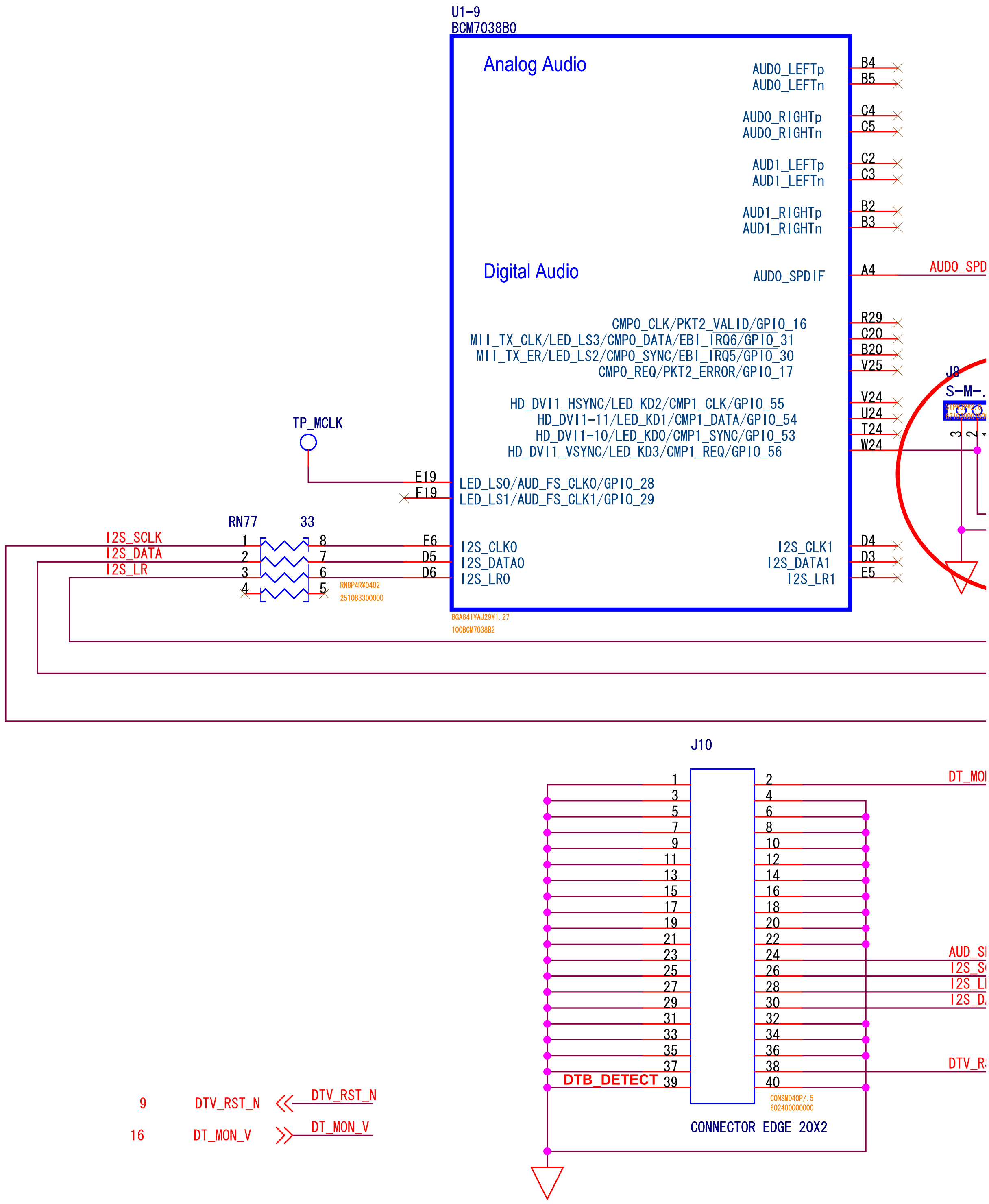


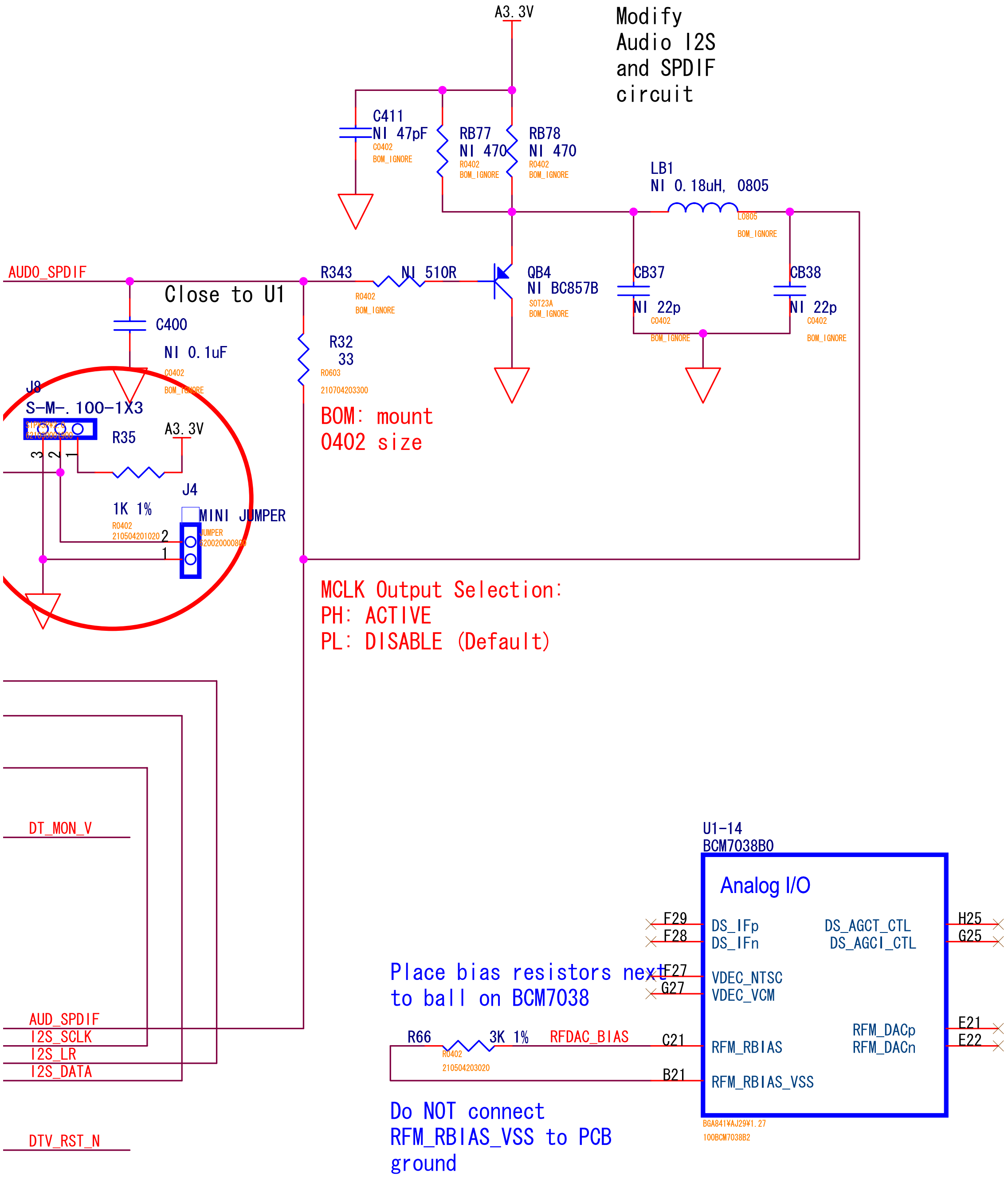

U1-3
BCM7038B0
CCIR656 Video I/O
L29
M25
M26
M27
M28
M29
N25
N26
N27
DVO_21/VI_656_D0
DVO_22/VI_656_D1
DVO_23/VI_656_D2
VI_656_D3
VI_656_D4
VI_656_D5
VI_656_D6
VI_656_D7
VI_656_CLK
DVO_12/VO_656_D0
DVO_13/VO_656_D1
DVO_14/VO_656_D2
DVO_15/VO_656_D3
DVO_16/VO_656_D4
DVO_17/VO_656_D5
DVO_18/VO_656_D6
DVO_19/VO_656_D7
DVO_20/VO_656_CLK
N28
N29
P25
P26
P27
P28
P29
R25
R26
BGA841¥AJ29¥1.27
100BCM7038B2
VO_656_D0
VO_656_D1
VO_656_D2
VO_656_D3
VO_656_D4
VO_656_D5
VO_656_D6
VO_656_D7
VO_656_CLK
RN86 22
RN87 22
RN88 22
RN8P4R¥0402
251082200000
BCM7038_DVO_23
BCM7038_DVO_22
BCM7038_DVO_21
BCM7038_DVO_12
BCM7038_DVO_13
BCM7038_DVO_14
BCM7038_DVO_15
BCM7038_DVO_16
BCM7038_DVO_17
BCM7038_DVO_18
BCM7038_DVO_19
BCM7038_DVO_20
18
EBI_DATA[15:0]
EBI_DATA[15:0] 9
EBI_DATA13
EBI_DATA12
EBI_DATA11
EBI_DATA10
EBI_DATA9
EBI_DATA8
EBI_DATA7
EBI_DATA6
EBI_DATA5
EBI_DATA4
EBI_DATA3
EBI_DATA2
EBI_DATA1
EBI_DATA0
ROM Data Width
CS Swap
J2
JUMPER
MINI JUMPER
R28
2.7K
S-M-100-1X3
J1
R371
2.7K
RD4
RD5
RD6
RD7
RD8
RD9
RD10
RD11
RD12
RD13
RD14
RD15
A
B
C
2.7K
EBI_CSb3_FPGA 9
EBI_CSb2_1394 9
EBI_CSb1_FLASH 9
EBI_CSb0_ROM 9
BCM7038_HSX1_CLK_POD_0_CLK 11
BCM7038_HSX1_DATA_POD_0_DATA0 11
BCM7038_HSX1_SYNC_POD_0_SYNC 11
BCM7038_HSX0_CLK 11
BCM7038_HSX0_DATA 11
BCM7038_HSX0_SYNC 11
VO_656_CLK
VO_656_D0
VO_656_D1
VO_656_D2
VO_656_D3
VO_656_D4
VO_656_D5
VO_656_D6
VO_656_D7
MIPS Endianess
RD20
RD21
RD22
RD23
RD24
RD25
RD26
RD27
RD28
RD29
RD30
RD31
RD32
RD33
RD34
R0402X3P
210704202720

DVO, PIN_STRAPOPTION

PDP-428XG

9.29 DTV TUNER BOARD (4/16) [AUDIO BUFFER BLOCK]


U1-9
BCM7038B0
Analog Audio
AUD0_LEFTp B4
AUD0_LEFTn B5
AUD0_RIGHTp C4
AUD0_RIGHTn C5
AUD1_LEFTp C2
AUD1_LEFTn C3
AUD1_RIGHTp B2
AUD1_RIGHTn B3
Digital Audio
AUD0_SPDIF A4
AUD0_SPD
CMP0_CLK/PKT2_VALID/GPIO_16 R29
MII_TX_CLK/LED_LS3/CMP0_DATA/EBI_IRQ6/GPIO_31 C20
MII_TX_ER/LED_LS2/CMP0_SYNC/EBI_IRQ5/GPIO_30 B20
CMP0_REQ/PKT2_ERROR/GPIO_17 V25
HD_DVI1_HSYNC/LED_KD2/CMP1_CLK/GPIO_55 V24
HD_DVI1-11/LED_KD1/CMP1_DATA/GPIO_54 U24
HD_DVI1-10/LED_KD0/CMP1_SYNC/GPIO_53 T24
HD_DVI1_VSYNC/LED_KD3/CMP1_REQ/GPIO_56 W24
TP_MCLK
E19 LED_LS0/AUD_FS_CLK0/GPIO_28
F19 LED_LS1/AUD_FS_CLK1/GPIO_29
RN77 33
I2S_SCLK 1 8 E6 I2S_CLK0
I2S_DATA 2 7 D5 I2S_DATA0
I2S_LR 3 6 D6 I2S_LR0
4 5
RN8P4R¥0402
251083300000
I2S_CLK1 D4
I2S_DATA1 D3
I2S_LR1 E5
BGA841¥AJ29¥1.27
100BCM7038B2
J8
S-M-
3 2 1
J10
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
DT_MO
AUD_S
I2S_S
I2S_L
I2S_D
DTV_R
DTB_DETECT
CONSMD40P/.5
602400000000
CONNECTOR EDGE 20X2
9 DTV_RST_N DTV_RST_N
16 DT_MON_V DT_MON_V


A3.3V
C411
NI 47pF
C0402
BOM_IGNORE
RB77
NI 470
R0402
BOM_IGNORE
RB78
NI 470
R0402
BOM_IGNORE
LB1
NI 0.18uH, 0805
L0805
BOM_IGNORE
AUDO_SPDIF
R343
NI 510R
R0402
BOM_IGNORE
QB4
NI BC857B
SOT23A
BOM_IGNORE
CB37
NI 22p
C0402
BOM_IGNORE
CB38
NI 22p
C0402
BOM_IGNORE
C400
NI 0.1uF
C0402
BOM_IGNORE
R32
33
R0603
210704203300
J8
S-M-.100-1X3
3 2 1
R35
A3.3V
J4
MINI JUMPER
JUMPER
1K 1%
R0402
210504201020
2
1
DT_MON_V
AUD_SPDIF
I2S_SCLK
I2S_LR
I2S_DATA
DTV_RST_N
U1-14
BCM7038B0
Analog I/O
F29
F28
DS_IFp
DS_IFn
DS_AGCT_CTL
DS_AGCI_CTL
H25
G25
F27
G27
VDEC_NTSC
VDEC_VCM
E21
E22
RFM_DACp
RFM_DACn
R66
3K 1%
RFDAC_BIAS
R0402
210504203020
C21
RFM_RBIAS
B21
RFM_RBIAS_VSS
BGA841¥AJ29¥1.27
100BCM7038B2

Modify
Audio I2S
and SPDIF
circuit

Close to U1

BOM: mount
0402 size

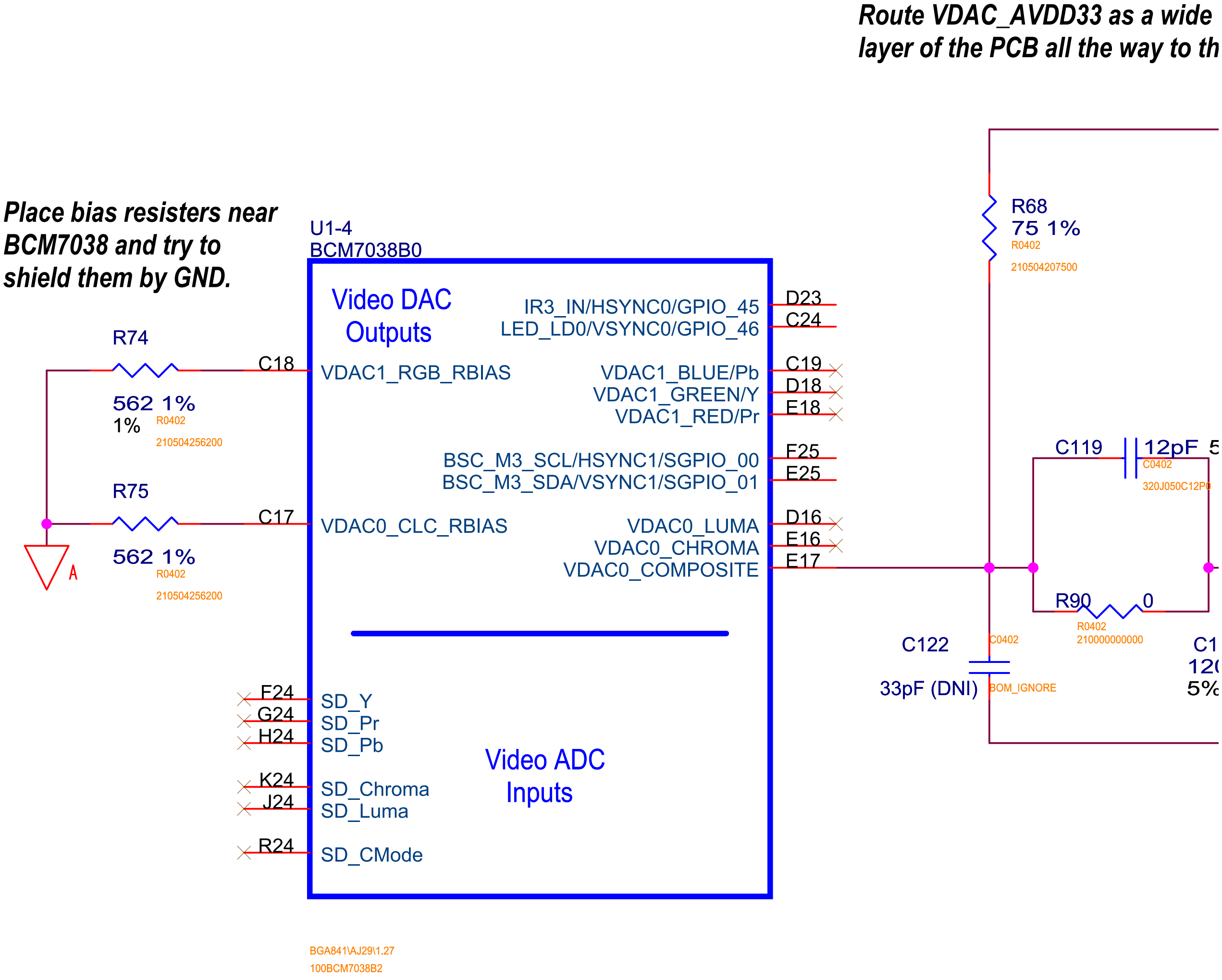
MCLK Output Selection:
PH: ACTIVE
PL: DISABLE (Default)

Place bias resistors next
to ball on BCM7038

Do NOT connect
RFM_RBIAS_VSS to PCB
ground

Audio Buffer

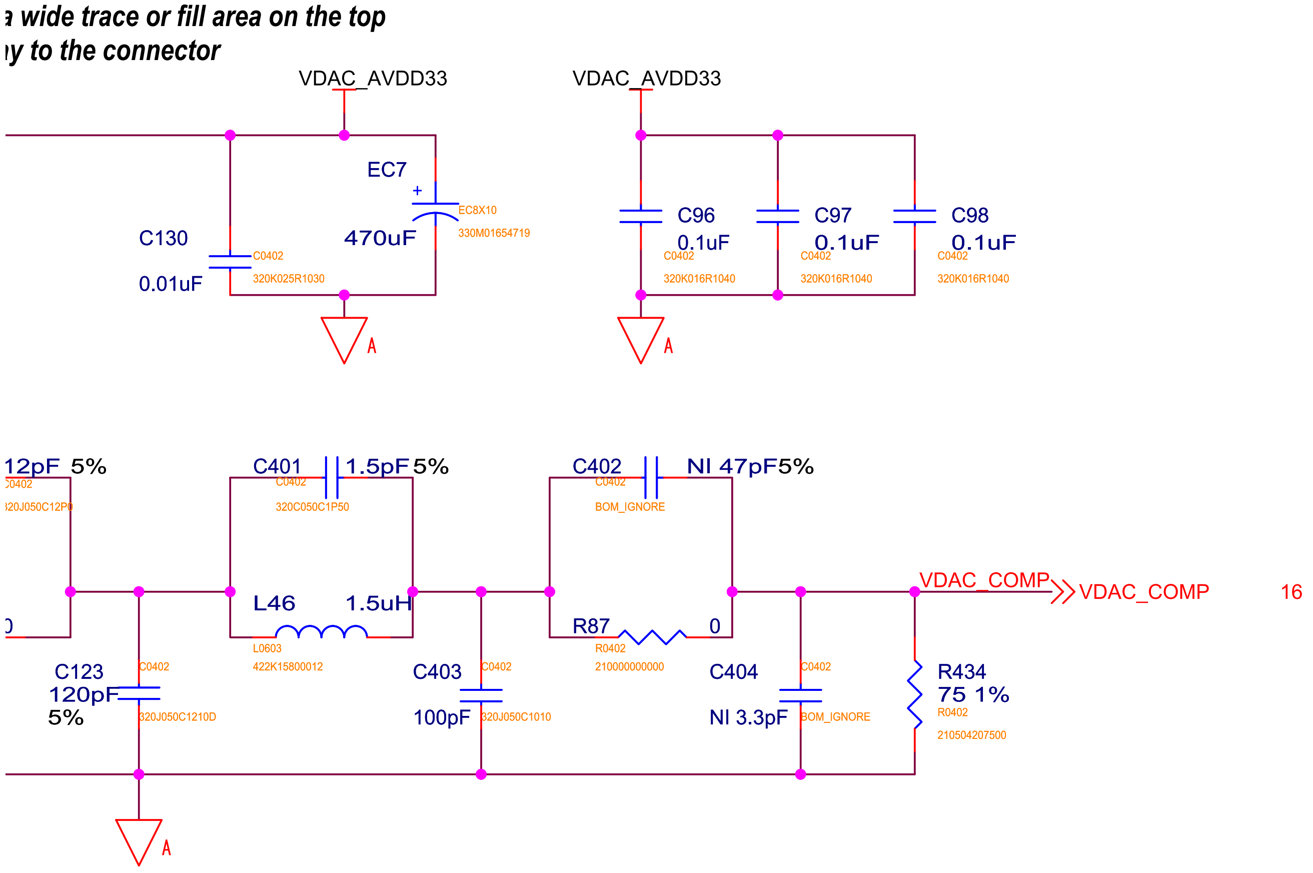
9.30 DTV TUNER BOARD (5/16) [VIDEO DAC OUTPUT BLOCK]



Route VDAC_AVDD33 as a wide layer of the PCB all the way to th

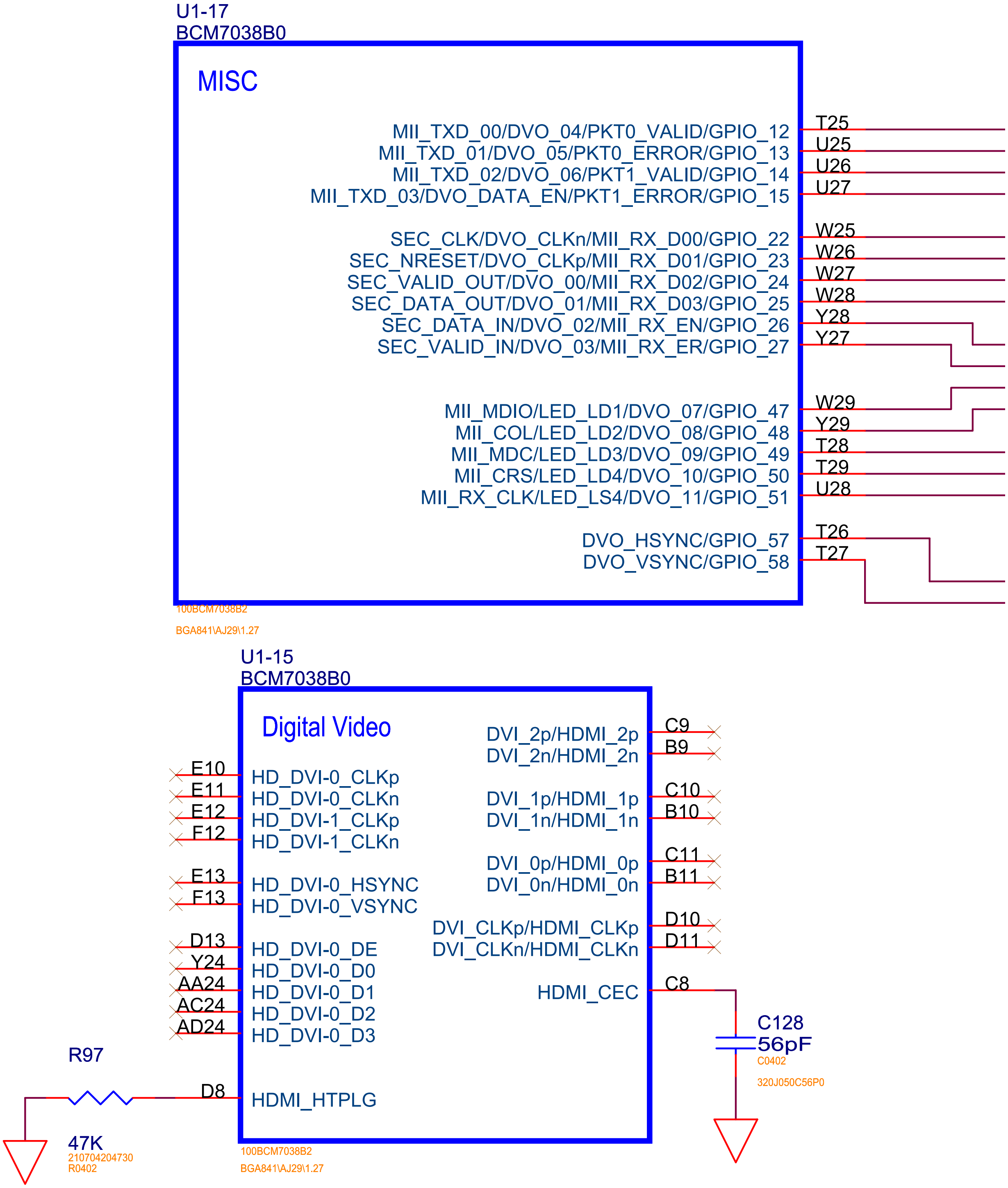
Place bias resisters near BCM7038 and try to shield them by GND.

U1-4
BCM7038B0
Video DAC
Outputs
VDAC1_RGB_RBIAS
VDAC0_CLC_RBIAS
IR3_IN/HSYNC0/GPIO_45
LED_LD0/VSYNC0/GPIO_46
VDAC1_BLUE/Pb
VDAC1_GREEN/Y
VDAC1_RED/Pr
BSC_M3_SCL/HSYNC1/SGPIO_00
BSC_M3_SDA/VSYNC1/SGPIO_01
VDAC0_LUMA
VDAC0_CHROMA
VDAC0_COMPOSITE
D23
C24
C19
D18
E18
F25
E25
D16
E16
E17
C18
C17
R74
562 1%
1%
R0402
210504256200
R75
562 1%
R0402
210504256200
A
F24
G24
H24
K24
J24
R24
SD_Y
SD_Pr
SD_Pb
SD_Chroma
SD_Luma
SD_CMode
Video ADC
Inputs
BGA841\AJ29\1.27
100BCM7038B2
R68
75 1%
R0402
210504207500
C119
12pF 5
C0402
320J050C12P
C122
33pF (DNI)
C0402
BOM_IGNORE
R90
0
R0402
210000000000
C1
12
5%

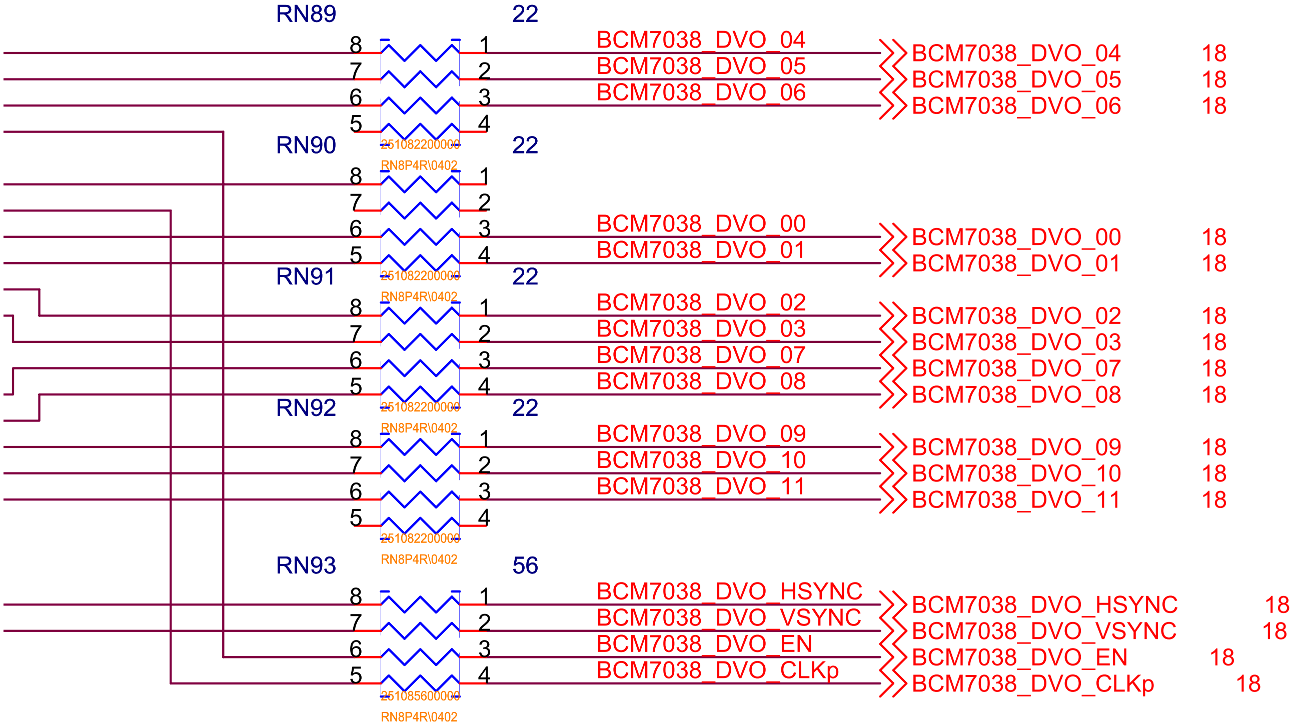

a wide trace or fill area on the top
y to the connector
VDAC_AVDD33
VDAC_AVDD33
EC7
+
EC8X10
330M01654719
470uF
C130
C0402
320K025R1030
0.01uF
C96
0.1uF
C0402
320K016R1040
C97
0.1uF
C0402
320K016R1040
C98
0.1uF
C0402
320K016R1040
A
A
12pF 5%
C0402
320J050C12P0
C401
C0402
1.5pF 5%
320C050C1P50
C402
C0402
NI 47pF5%
BOM_IGNORE
L46
1.5uH
L0603
422K15800012
R87
R0402
210000000000
0
VDAC_COMP
VDAC_COMP
16
C123
120pF
5%
C0402
320J050C1210D
C403
100pF
C0402
320J050C1010
C404
NI 3.3pF
C0402
BOM_IGNORE
R434
75 1%
R0402
210504207500
A

Video DAC output

9.31 DTV TUNER BOARD (6/16) [DVO BLOCK]

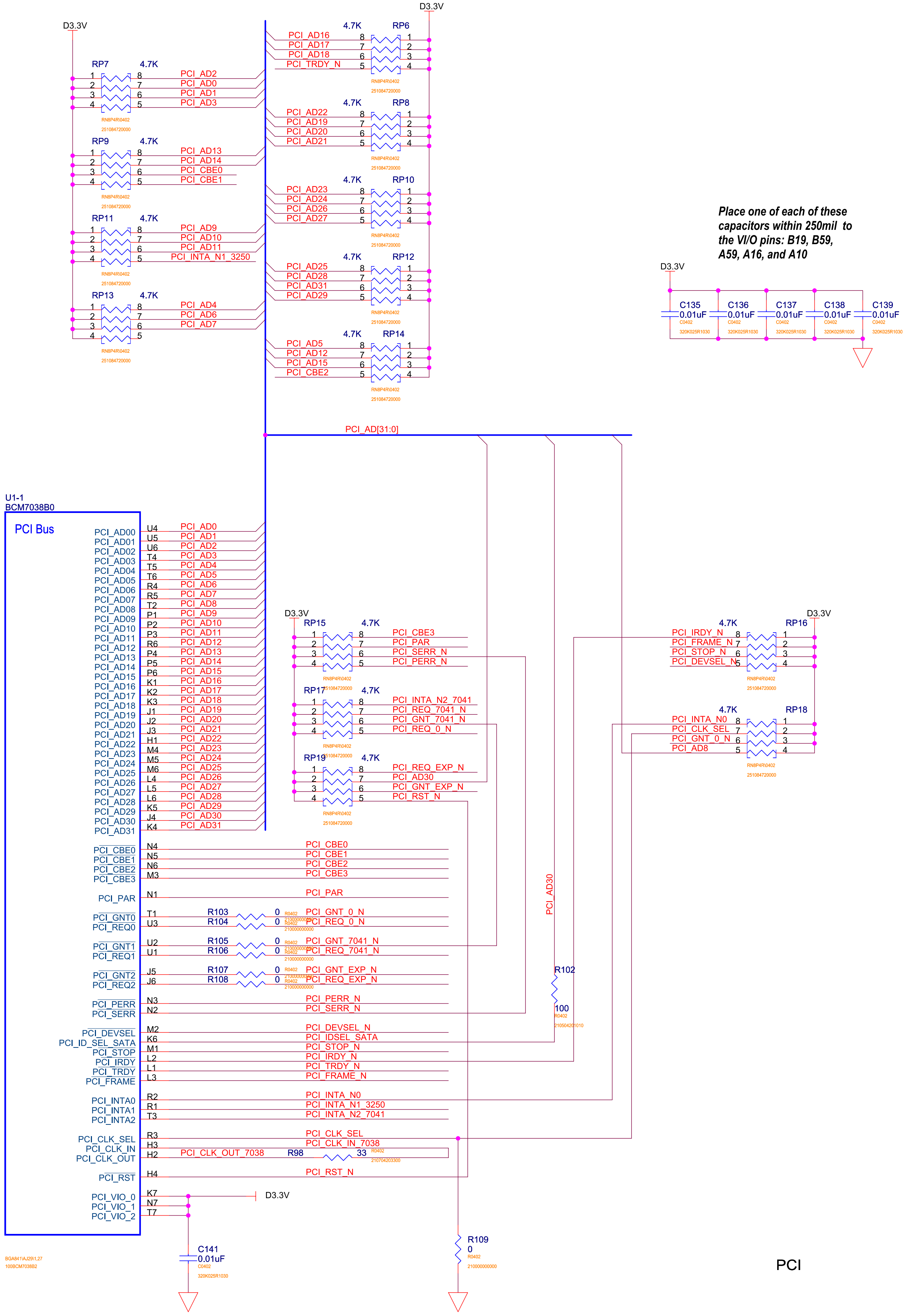

U1-17
BCM7038B0
MISC
MII_TXD_00/DVO_04/PKT0_VALID/GPIO_12
MII_TXD_01/DVO_05/PKT0_ERROR/GPIO_13
MII_TXD_02/DVO_06/PKT1_VALID/GPIO_14
MII_TXD_03/DVO_DATA_EN/PKT1_ERROR/GPIO_15
SEC_CLK/DVO_CLKn/MII_RX_D00/GPIO_22
SEC_NRESET/DVO_CLKp/MII_RX_D01/GPIO_23
SEC_VALID_OUT/DVO_00/MII_RX_D02/GPIO_24
SEC_DATA_OUT/DVO_01/MII_RX_D03/GPIO_25
SEC_DATA_IN/DVO_02/MII_RX_EN/GPIO_26
SEC_VALID_IN/DVO_03/MII_RX_ER/GPIO_27
MII_MDIO/LED_LD1/DVO_07/GPIO_47
MII_COL/LED_LD2/DVO_08/GPIO_48
MII_MDC/LED_LD3/DVO_09/GPIO_49
MII_CRS/LED_LD4/DVO_10/GPIO_50
MII_RX_CLK/LED_LS4/DVO_11/GPIO_51
DVO_HSYNC/GPIO_57
DVO_VSYNC/GPIO_58
T25
U25
U26
U27
W25
W26
W27
W28
Y28
Y27
W29
Y29
T28
T29
U28
T26
T27
100BCM7038B2
BGA841\AJ29\1.27
U1-15
BCM7038B0
Digital Video
E10
E11
E12
F12
HD_DVI-0_CLKp
HD_DVI-0_CLKn
HD_DVI-1_CLKp
HD_DVI-1_CLKn
E13
F13
HD_DVI-0_HSYNC
HD_DVI-0_VSYNC
D13
Y24
AA24
AC24
AD24
HD_DVI-0_DE
HD_DVI-0_D0
HD_DVI-0_D1
HD_DVI-0_D2
HD_DVI-0_D3
D8
HDMI_HTPLG
DVI_2p/HDMI_2p
DVI_2n/HDMI_2n
C9
B9
DVI_1p/HDMI_1p
DVI_1n/HDMI_1n
C10
B10
DVI_0p/HDMI_0p
DVI_0n/HDMI_0n
C11
B11
DVI_CLKp/HDMI_CLKp
DVI_CLKn/HDMI_CLKn
D10
D11
HDMI_CEC
C8
C128
56pF
C0402
320J050C56P0
R97
47K
210704204730
R0402
100BCM7038B2
BGA841\AJ29\1.27

Place series resistors close to U1


RN89
22
8 7 6 5
1 2 3 4
251082200000
RN8P4R\0402
BCM7038_DVO_04
BCM7038_DVO_05
BCM7038_DVO_06
BCM7038_DVO_04 18
BCM7038_DVO_05 18
BCM7038_DVO_06 18
RN90
22
8 7 6 5
1 2 3 4
251082200000
RN8P4R\0402
BCM7038_DVO_00
BCM7038_DVO_01
BCM7038_DVO_00 18
BCM7038_DVO_01 18
RN91
22
8 7 6 5
1 2 3 4
251082200000
RN8P4R\0402
BCM7038_DVO_02
BCM7038_DVO_03
BCM7038_DVO_07
BCM7038_DVO_08
BCM7038_DVO_02 18
BCM7038_DVO_03 18
BCM7038_DVO_07 18
BCM7038_DVO_08 18
RN92
22
8 7 6 5
1 2 3 4
251082200000
RN8P4R\0402
BCM7038_DVO_09
BCM7038_DVO_10
BCM7038_DVO_11
BCM7038_DVO_09 18
BCM7038_DVO_10 18
BCM7038_DVO_11 18
RN93
56
8 7 6 5
1 2 3 4
251085600000
RN8P4R\0402
BCM7038_DVO_HSYNC
BCM7038_DVO_VSYNC
BCM7038_DVO_EN
BCM7038_DVO_CLKp
BCM7038_DVO_HSYNC 18
BCM7038_DVO_VSYNC 18
BCM7038_DVO_EN 18
BCM7038_DVO_CLKp 18

DVO

9.32 DTV TUNER BOARD (7/16) [PCI BLOCK]


D3.3V
RP7 4.7K
RP9 4.7K
RP11 4.7K
RP13 4.7K
RP6 4.7K
RP8 4.7K
RP10 4.7K
RP12 4.7K
RP14 4.7K
RP15 4.7K
RP17 4.7K
RP19 4.7K
RP16 4.7K
RP18 4.7K
RN8P4R0402
251084720000
PCI_AD2
PCI_AD0
PCI_AD1
PCI_AD3
PCI_AD13
PCI_AD14
PCI_CBE0
PCI_CBE1
PCI_AD9
PCI_AD10
PCI_AD11
PCI_INTA_N1_3250
PCI_AD4
PCI_AD6
PCI_AD7
PCI_AD16
PCI_AD17
PCI_AD18
PCI_TRDY_N
PCI_AD22
PCI_AD19
PCI_AD20
PCI_AD21
PCI_AD23
PCI_AD24
PCI_AD26
PCI_AD27
PCI_AD25
PCI_AD28
PCI_AD31
PCI_AD29
PCI_AD5
PCI_AD12
PCI_AD15
PCI_CBE2
PCI_AD[31:0]
C135 0.01uF
C136 0.01uF
C137 0.01uF
C138 0.01uF
C139 0.01uF
C0402
320K025R1030
U1-1
BCM7038B0
PCI Bus
PCI_AD00 … PCI_AD31
U4 U5 U6 T4 T5 T6 R4 R5 T2 P1 P2 P3 R6 P4 P5 P6 K1 K2 K3 J1 J2 J3 H1 M4 M5 M6 L4 L5 L6 K5 J4 K4
PCI_CBE0
PCI_CBE1
PCI_CBE2
PCI_CBE3
PCI_PAR
PCI_GNT0
PCI_REQ0
PCI_GNT1
PCI_REQ1
PCI_GNT2
PCI_REQ2
PCI_PERR
PCI_SERR
PCI_DEVSEL
PCI_ID_SEL_SATA
PCI_STOP
PCI_IRDY
PCI_TRDY
PCI_FRAME
PCI_INTA0
PCI_INTA1
PCI_INTA2
PCI_CLK_SEL
PCI_CLK_IN
PCI_CLK_OUT
PCI_RST
PCI_VIO_0
PCI_VIO_1
PCI_VIO_2
N4 N5 N6 M3 N1 T1 U3 U2 U1 J5 J6 N3 N2 M2 K6 M1 L2 L1 L3 R2 R1 T3 R3 H3 H2 H4 K7 N7 T7
PCI_CBE3
PCI_PAR
PCI_SERR_N
PCI_PERR_N
PCI_INTA_N2_7041
PCI_REQ_7041_N
PCI_GNT_7041_N
PCI_REQ_0_N
PCI_REQ_EXP_N
PCI_AD30
PCI_GNT_EXP_N
PCI_RST_N
PCI_IRDY_N
PCI_FRAME_N
PCI_STOP_N
PCI_DEVSEL_N
PCI_INTA_N0
PCI_CLK_SEL
PCI_GNT_0_N
PCI_AD8
R103 0
R104 0
R105 0
R106 0
R107 0
R108 0
R0402
210000000000
PCI_GNT_0_N
PCI_REQ_0_N
PCI_GNT_7041_N
PCI_REQ_7041_N
PCI_GNT_EXP_N
PCI_REQ_EXP_N
PCI_PERR_N
PCI_SERR_N
PCI_DEVSEL_N
PCI_IDSEL_SATA
PCI_STOP_N
PCI_IRDY_N
PCI_TRDY_N
PCI_FRAME_N
PCI_INTA_N0
PCI_INTA_N1_3250
PCI_INTA_N2_7041
PCI_CLK_SEL
PCI_CLK_IN_7038
PCI_CLK_OUT_7038
R98 33
210704203300
PCI_RST_N
R102 100
210504201010
PCI_AD30
C141 0.01uF
R109 0
210000000000
BGA841\AJ29\1.27
100BCM7038B2
PCI

Place one of each of these capacitors within 250mil to the VI/O pins: B19, B59, A59, A16, and A10

A

B

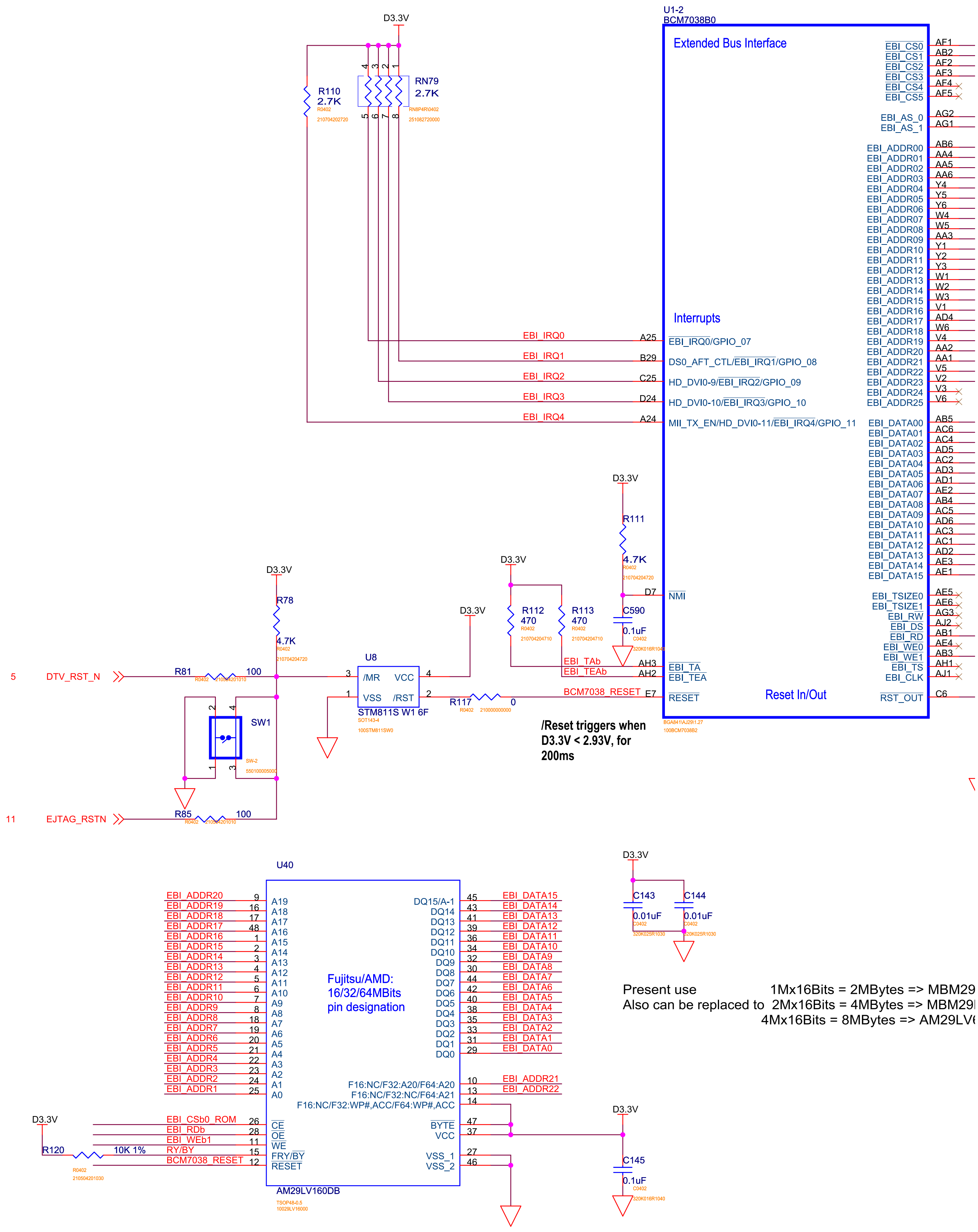
C

D

E

F

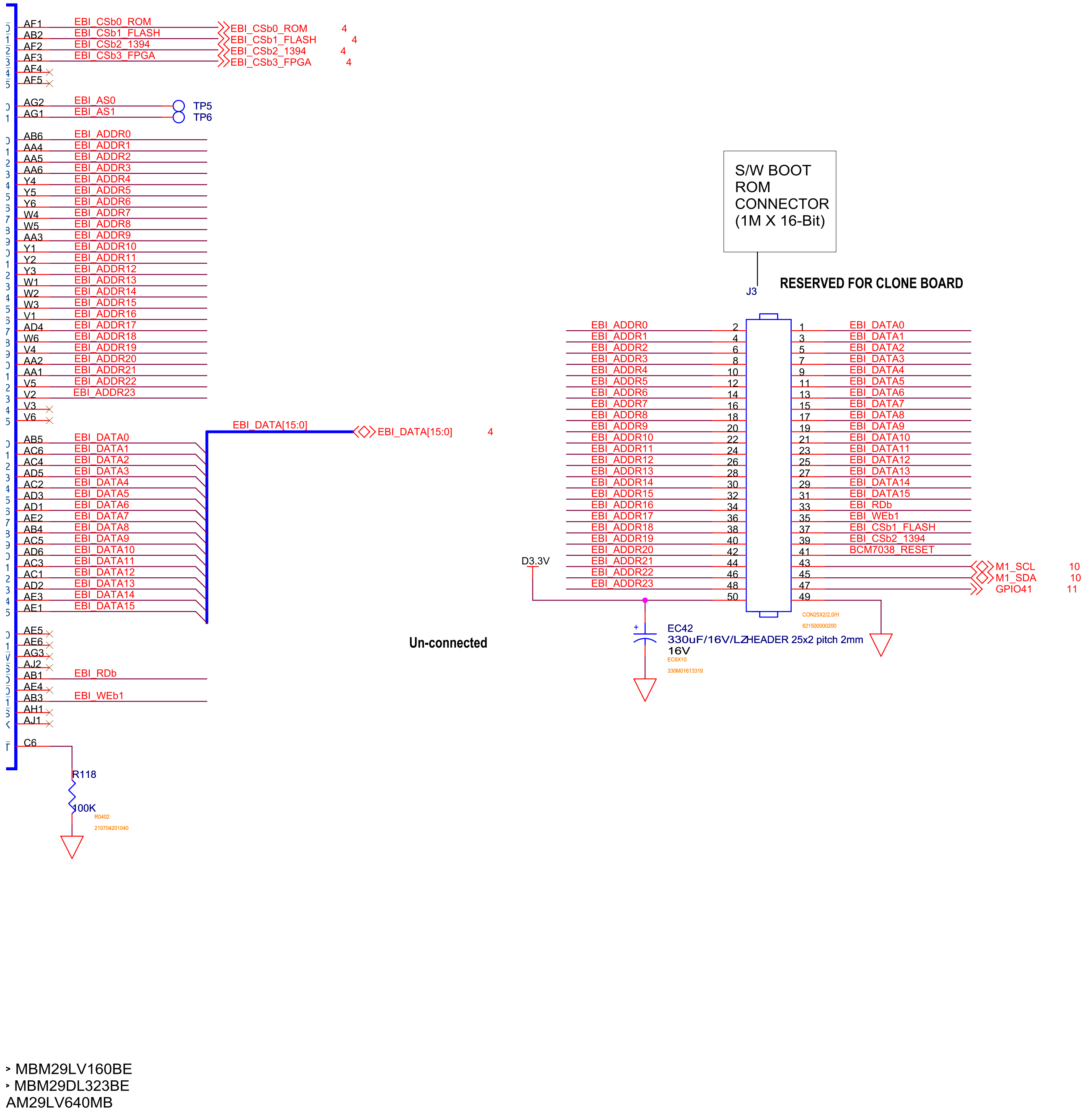
9.33 DTV TUNER BOARD (8/16) [EBI, RESET BLOCK]



U1-2
BCM7038B0
Extended Bus Interface
EBI_CS0 AF1
EBI_CS1 AB2
EBI_CS2 AF2
EBI_CS3 AF3
EBI_CS4 AF4
EBI_CS5 AF5
EBI_AS_0 AG2
EBI_AS_1 AG1
EBI_ADDR00 AB6
EBI_ADDR01 AA4
EBI_ADDR02 AA5
EBI_ADDR03 AA6
EBI_ADDR04 Y4
EBI_ADDR05 Y5
EBI_ADDR06 Y6
EBI_ADDR07 W4
EBI_ADDR08 W5
EBI_ADDR09 AA3
EBI_ADDR10 Y1
EBI_ADDR11 Y2
EBI_ADDR12 Y3
EBI_ADDR13 W1
EBI_ADDR14 W2
EBI_ADDR15 W3
EBI_ADDR16 V1
EBI_ADDR17 AD4
EBI_ADDR18 W6
EBI_ADDR19 V4
EBI_ADDR20 AA2
EBI_ADDR21 AA1
EBI_ADDR22 V5
EBI_ADDR23 V2
EBI_ADDR24 V3
EBI_ADDR25 V6
EBI_DATA00 AB5
EBI_DATA01 AC6
EBI_DATA02 AC4
EBI_DATA03 AD5
EBI_DATA04 AC2
EBI_DATA05 AD3
EBI_DATA06 AD1
EBI_DATA07 AE2
EBI_DATA08 AB4
EBI_DATA09 AC5
EBI_DATA10 AD6
EBI_DATA11 AC3
EBI_DATA12 AC1
EBI_DATA13 AD2
EBI_DATA14 AE3
EBI_DATA15 AE1
EBI_TSIZE0 AE5
EBI_TSIZE1 AE6
EBI_RW AG3
EBI_DS AJ2
EBI_RD AB1
EBI_WE0 AE4
EBI_WE1 AB3
EBI_TS AH1
EBI_CLK AJ1
Interrupts
EBI_IRQ0 A25 EBI_IRQ0/GPIO_07
EBI_IRQ1 B29 DS0_AFT_CTL/EBI_IRQ1/GPIO_08
EBI_IRQ2 C25 HD_DVI0-9/EBI_IRQ2/GPIO_09
EBI_IRQ3 D24 HD_DVI0-10/EBI_IRQ3/GPIO_10
EBI_IRQ4 A24 MII_TX_EN/HD_DVI0-11/EBI_IRQ4/GPIO_11
D7 NMI
EBI_TAb AH3 EBI_TA
EBI_TEAb AH2 EBI_TEA
BCM7038_RESET E7 RESET
Reset In/Out
RST_OUT C6
BGA841AJ29/1.27
100BCM7038B2
D3.3V
RN79 2.7K RN8P4R0402 251082720000
4 3 2 1
5 6 7 8
R110 2.7K R0402 210704202720
D3.3V
R111 4.7K R0402 210704204720
C590 0.1uF C0402 320K016R1040
D3.3V
R112 470 R0402 210704204710
R113 470 R0402 210704204710
D3.3V
R78 4.7K R0402 210704204720
5 DTV_RST_N
R81 100 R0402 210504201010
U8
3 /MR VCC 4
1 VSS /RST 2
STM811S W1 6F
SOT143-4
100STM811SW0
D3.3V
R117 0 R0402 210000000000
SW1
2 4 1 3
SW-2 550100005000
11 EJTAG_RSTN
R85 100 R0402 210504201010
U40
EBI_ADDR20 9 A19
EBI_ADDR19 16 A18
EBI_ADDR18 17 A17
EBI_ADDR17 48 A16
EBI_ADDR16 1 A15
EBI_ADDR15 2 A14
EBI_ADDR14 3 A13
EBI_ADDR13 4 A12
EBI_ADDR12 5 A11
EBI_ADDR11 6 A10
EBI_ADDR10 7 A9
EBI_ADDR9 8 A8
EBI_ADDR8 18 A7
EBI_ADDR7 19 A6
EBI_ADDR6 20 A5
EBI_ADDR5 21 A4
EBI_ADDR4 22 A3
EBI_ADDR3 23 A2
EBI_ADDR2 24 A1
EBI_ADDR1 25 A0
DQ15/A-1 45 EBI_DATA15
DQ14 43 EBI_DATA14
DQ13 41 EBI_DATA13
DQ12 39 EBI_DATA12
DQ11 36 EBI_DATA11
DQ10 34 EBI_DATA10
DQ9 32 EBI_DATA9
DQ8 30 EBI_DATA8
DQ7 44 EBI_DATA7
DQ6 42 EBI_DATA6
DQ5 40 EBI_DATA5
DQ4 38 EBI_DATA4
DQ3 35 EBI_DATA3
DQ2 33 EBI_DATA2
DQ1 31 EBI_DATA1
DQ0 29 EBI_DATA0
Fujitsu/AMD:
16/32/64MBits
pin designation
F16:NC/F32:A20/F64:A20 10 EBI_ADDR21
F16:NC/F32:NC/F64:A21 13 EBI_ADDR22
F16:NC/F32:WP#,ACC/F64:WP#,ACC 14
EBI_CSb0_ROM 26 CE
EBI_RDb 28 OE
EBI_WEb1 11 WE
RY/BY 15 FRY/BY
BCM7038_RESET 12 RESET
BYTE 47
VCC 37
VSS_1 27
VSS_2 46
AM29LV160DB
TSOP48-0.5
10029LV16000
D3.3V
R120 10K 1% R0402 210504201030
D3.3V
C143 0.01uF C0402 320K025R1030
C144 0.01uF C0402 320K025R1030
D3.3V
C145 0.1uF C0402 320K016R1040

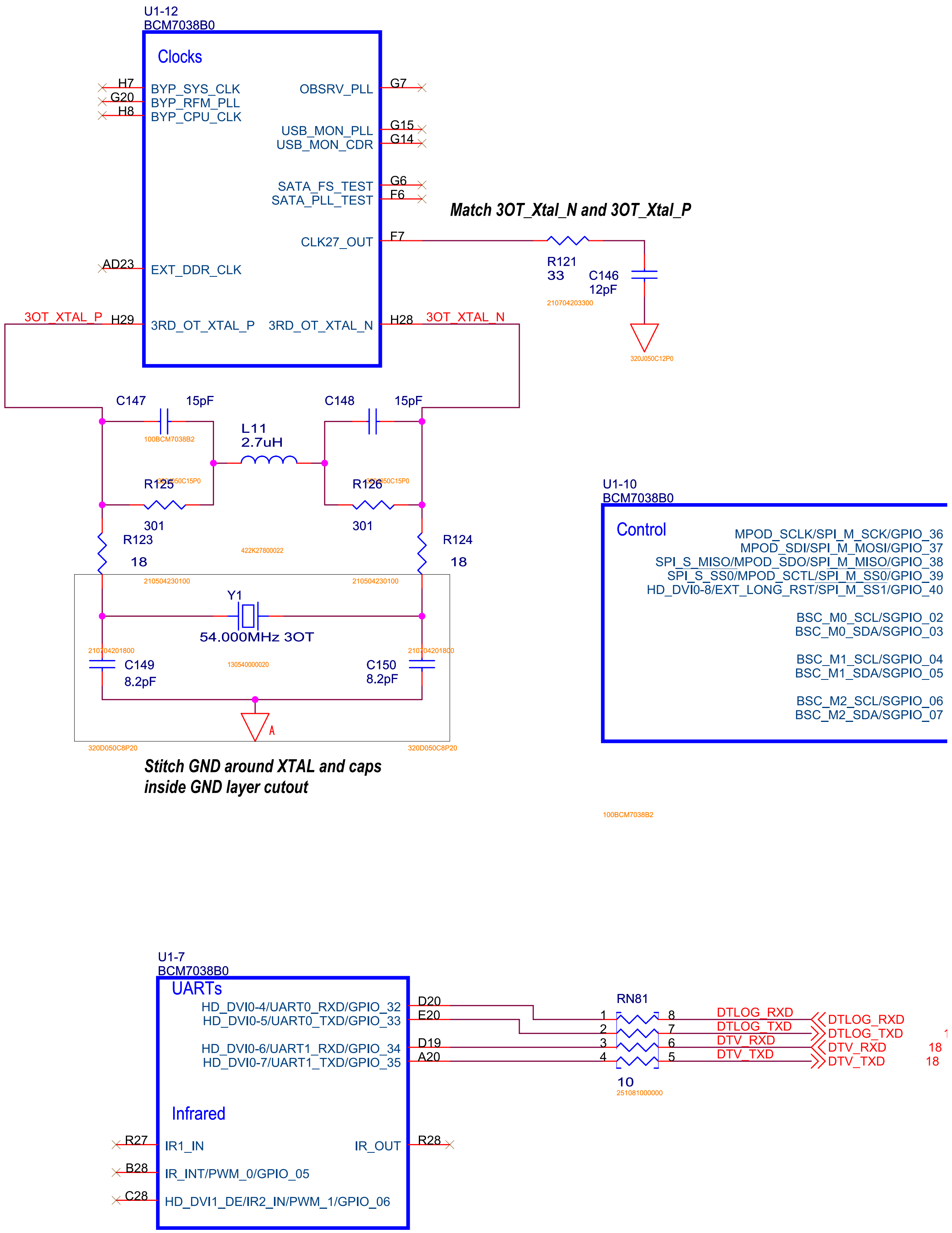
/Reset triggers when
D3.3V < 2.93V, for
200ms

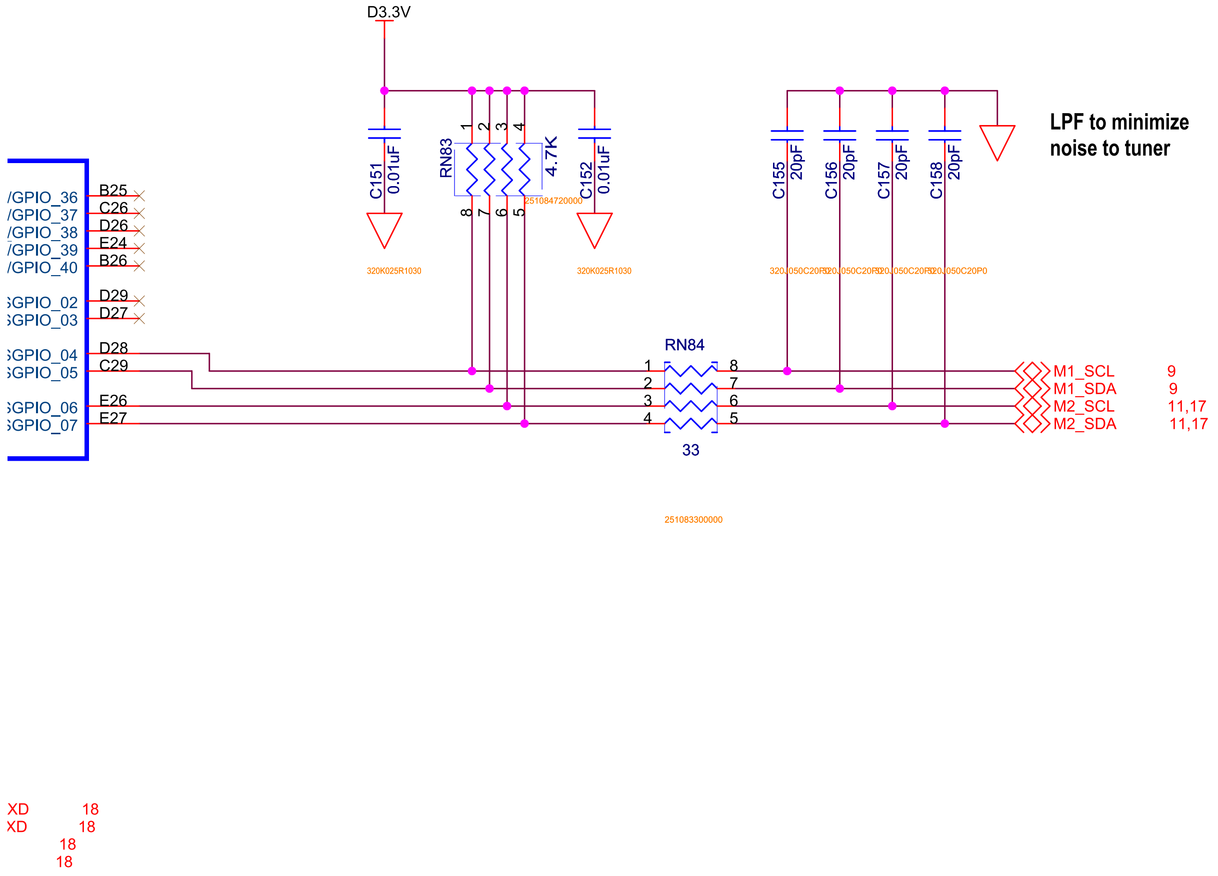
Present use 1Mx16Bits = 2MBytes => MBM29
Also can be replaced to 2Mx16Bits = 4MBytes => MBM29
4Mx16Bits = 8MBytes => AM29LV


AF1 EBI_CSb0_ROM
AB2 EBI_CSb1_FLASH
AF2 EBI_CSb2_1394
AF3 EBI_CSb3_FPGA
AF4
AF5
EBI_CSb0_ROM 4
EBI_CSb1_FLASH 4
EBI_CSb2_1394 4
EBI_CSb3_FPGA 4
AG2 EBI_AS0
AG1 EBI_AS1
TP5
TP6
AB6 EBI_ADDR0
AA4 EBI_ADDR1
AA5 EBI_ADDR2
AA6 EBI_ADDR3
Y4 EBI_ADDR4
Y5 EBI_ADDR5
Y6 EBI_ADDR6
W4 EBI_ADDR7
W5 EBI_ADDR8
AA3 EBI_ADDR9
Y1 EBI_ADDR10
Y2 EBI_ADDR11
Y3 EBI_ADDR12
W1 EBI_ADDR13
W2 EBI_ADDR14
W3 EBI_ADDR15
V1 EBI_ADDR16
AD4 EBI_ADDR17
W6 EBI_ADDR18
V4 EBI_ADDR19
AA2 EBI_ADDR20
AA1 EBI_ADDR21
V5 EBI_ADDR22
V2 EBI_ADDR23
V3
V6
EBI_DATA[15:0]
EBI_DATA[15:0] 4
AB5 EBI_DATA0
AC6 EBI_DATA1
AC4 EBI_DATA2
AD5 EBI_DATA3
AC2 EBI_DATA4
AD3 EBI_DATA5
AD1 EBI_DATA6
AE2 EBI_DATA7
AB4 EBI_DATA8
AC5 EBI_DATA9
AD6 EBI_DATA10
AC3 EBI_DATA11
AC1 EBI_DATA12
AD2 EBI_DATA13
AE3 EBI_DATA14
AE1 EBI_DATA15
AE5
AE6
AG3
AJ2
AB1 EBI_RDb
AE4
AB3 EBI_WEb1
AH1
AJ1
C6
R118
100K
R0402
210704201040
S/W BOOT
ROM
CONNECTOR
(1M X 16-Bit)
J3
RESERVED FOR CLONE BOARD
EBI_ADDR0 2
EBI_ADDR1 4
EBI_ADDR2 6
EBI_ADDR3 8
EBI_ADDR4 10
EBI_ADDR5 12
EBI_ADDR6 14
EBI_ADDR7 16
EBI_ADDR8 18
EBI_ADDR9 20
EBI_ADDR10 22
EBI_ADDR11 24
EBI_ADDR12 26
EBI_ADDR13 28
EBI_ADDR14 30
EBI_ADDR15 32
EBI_ADDR16 34
EBI_ADDR17 36
EBI_ADDR18 38
EBI_ADDR19 40
EBI_ADDR20 42
EBI_ADDR21 44
EBI_ADDR22 46
EBI_ADDR23 48
50
1 EBI_DATA0
3 EBI_DATA1
5 EBI_DATA2
7 EBI_DATA3
9 EBI_DATA4
11 EBI_DATA5
13 EBI_DATA6
15 EBI_DATA7
17 EBI_DATA8
19 EBI_DATA9
21 EBI_DATA10
23 EBI_DATA11
25 EBI_DATA12
27 EBI_DATA13
29 EBI_DATA14
31 EBI_DATA15
33 EBI_RDb
35 EBI_WEb1
37 EBI_CSb1_FLASH
39 EBI_CSb2_1394
41 BCM7038_RESET
43 M1_SCL 10
45 M1_SDA 10
47 GPIO41 11
49
D3.3V
CON25X2/2.0/H
621500000200
HEADER 25x2 pitch 2mm
EC42
330uF/16V/LZ
16V
EC8X10
330M01613319
Un-connected
MBM29LV160BE
MBM29DL323BE
AM29LV640MB

EBI,RESET

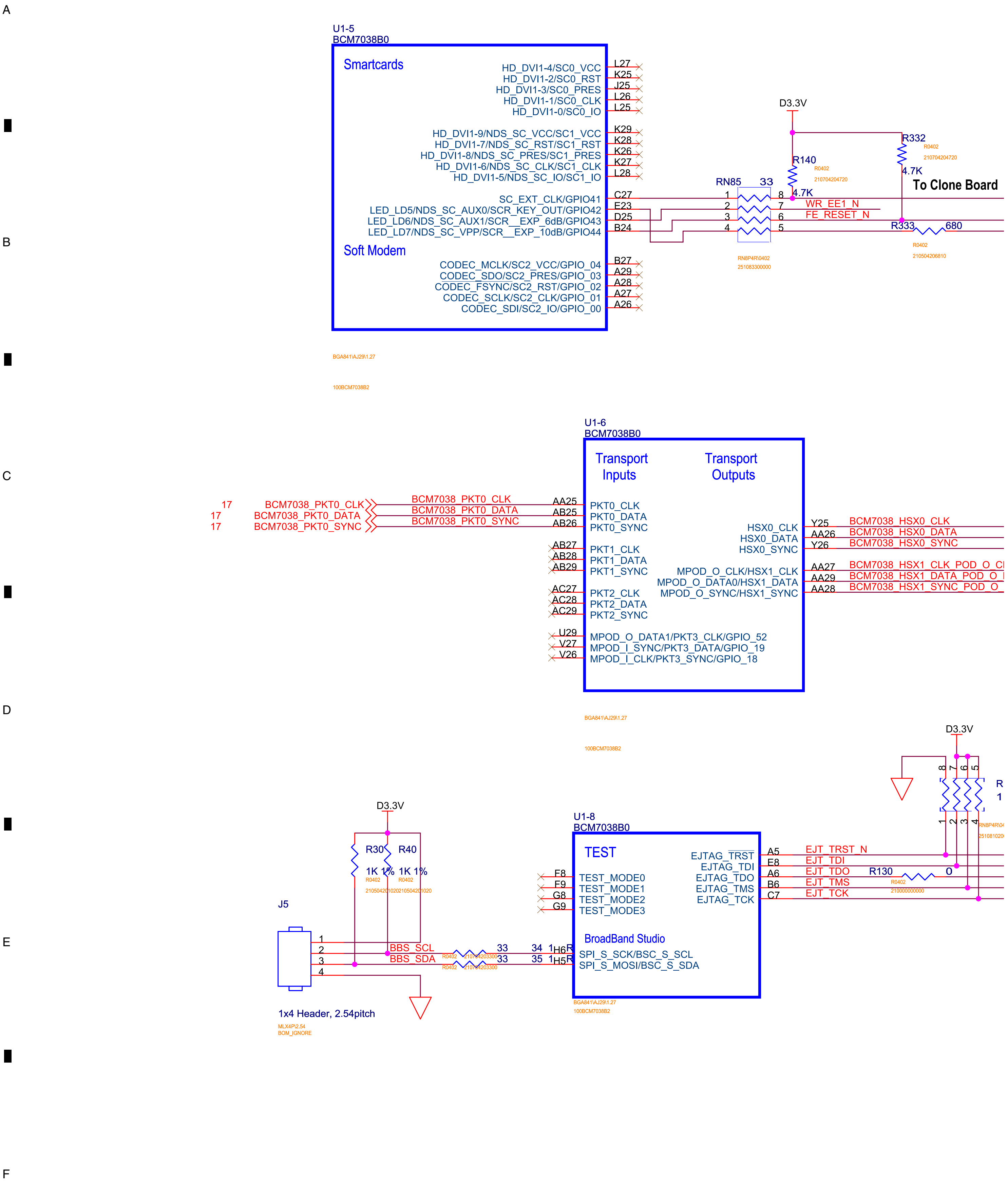
9.34 DTV TUNER BOARD (9/16) [I2C, UART, CLK BLOCK]

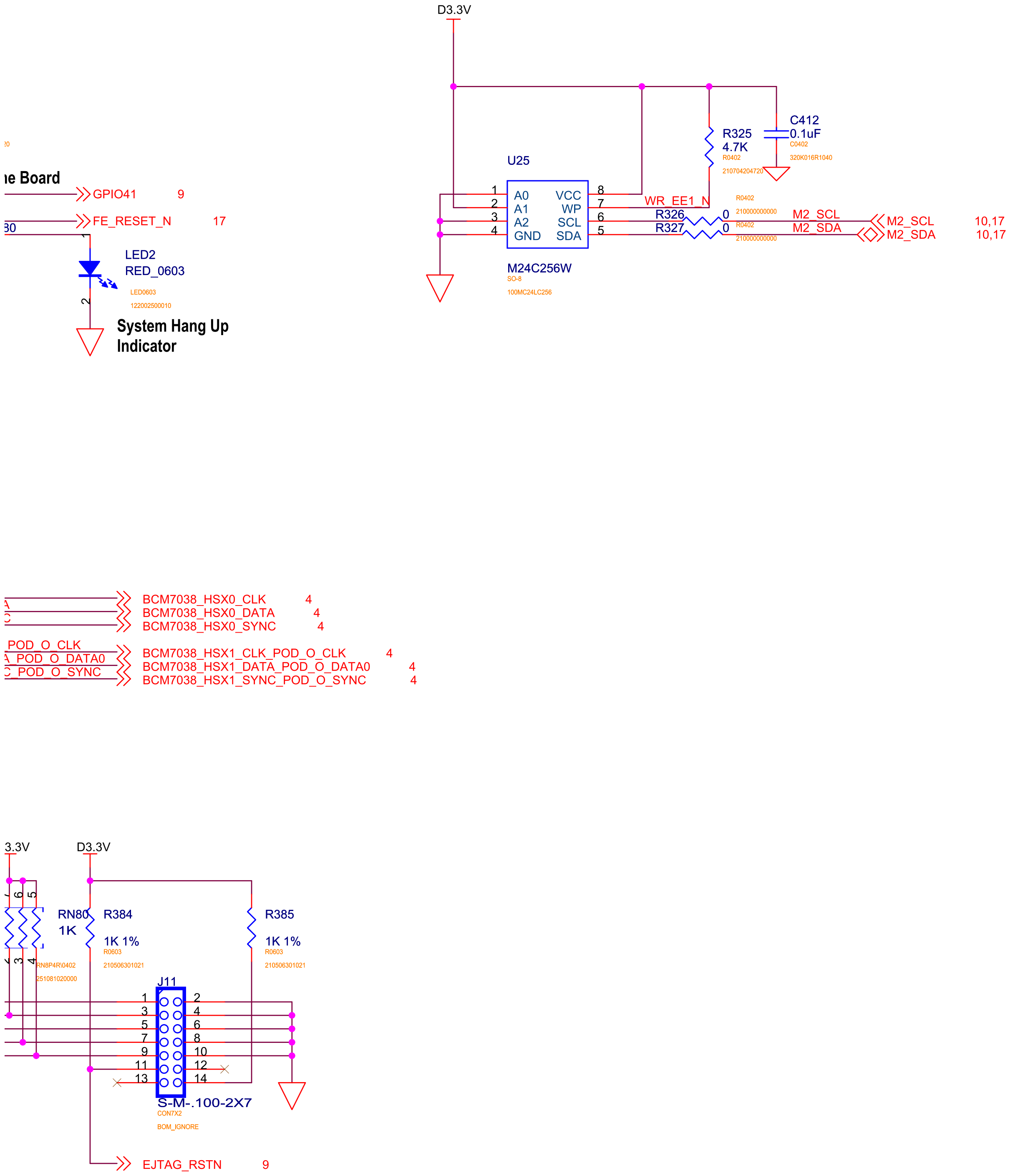

A
B
C
D
E
F
U1-12
BCM7038B0
Clocks
H7
G20
H8
BYP_SYS_CLK
BYP_RFM_PLL
BYP_CPU_CLK
OBSRV_PLL
G7
USB_MON_PLL
USB_MON_CDR
G15
G14
SATA_FS_TEST
SATA_PLL_TEST
G6
F6
Match 3OT_Xtal_N and 3OT_Xtal_P
CLK27_OUT
F7
R121
33
C146
12pF
210704203300
320J050C12P0
AD23
EXT_DDR_CLK
3OT_XTAL_P
H29
3RD_OT_XTAL_P
3RD_OT_XTAL_N
H28
3OT_XTAL_N
C147
15pF
100BCM7038B2
C148
15pF
L11
2.7uH
R125
320J050C15P0
R126
320J050C15P0
301
301
R123
18
R124
18
422K27800022
210504230100
210504230100
Y1
54.000MHz 3OT
210704201800
210704201800
C149
8.2pF
130540000020
C150
8.2pF
A
320D050C8P20
320D050C8P20
Stitch GND around XTAL and caps
inside GND layer cutout
U1-10
BCM7038B0
Control
MPOD_SCLK/SPI_M_SCK/GPIO_36
MPOD_SDI/SPI_M_MOSI/GPIO_37
SPI_S_MISO/MPOD_SDO/SPI_M_MISO/GPIO_38
SPI_S_SS0/MPOD_SCTL/SPI_M_SS0/GPIO_39
HD_DVI0-8/EXT_LONG_RST/SPI_M_SS1/GPIO_40
BSC_M0_SCL/SGPIO_02
BSC_M0_SDA/SGPIO_03
BSC_M1_SCL/SGPIO_04
BSC_M1_SDA/SGPIO_05
BSC_M2_SCL/SGPIO_06
BSC_M2_SDA/SGPIO_07
100BCM7038B2
U1-7
BCM7038B0
UARTs
HD_DVI0-4/UART0_RXD/GPIO_32
HD_DVI0-5/UART0_TXD/GPIO_33
HD_DVI0-6/UART1_RXD/GPIO_34
HD_DVI0-7/UART1_TXD/GPIO_35
D20
E20
D19
A20
RN81
1
2
3
4
8
7
6
5
10
251081000000
DTLOG_RXD
DTLOG_TXD
DTV_RXD
DTV_TXD
DTLOG_RXD
DTLOG_TXD
DTV_RXD
DTV_TXD
1
18
18
Infrared
R27
B28
C28
IR1_IN
IR_INT/PWM_0/GPIO_05
HD_DVI1_DE/IR2_IN/PWM_1/GPIO_06
IR_OUT
R28


D3.3V
C151
0.01uF
320K025R1030
RN83
4.7K
251084720000
C152
0.01uF
320K025R1030
C155
20pF
C156
20pF
C157
20pF
C158
20pF
320J050C20P0
LPF to minimize
noise to tuner
/GPIO_36
/GPIO_37
/GPIO_38
/GPIO_39
/GPIO_40
B25
C26
D26
E24
B26
GPIO_02
GPIO_03
D29
D27
GPIO_04
GPIO_05
D28
C29
GPIO_06
GPIO_07
E26
E27
RN84
33
251083300000
M1_SCL 9
M1_SDA 9
M2_SCL 11,17
M2_SDA 11,17
XD 18
XD 18
18
18

I2C, UART, CLK

9.35 DTV TUNER BOARD (10/16) [EJTAG, TS, EEPROM BLOCK]

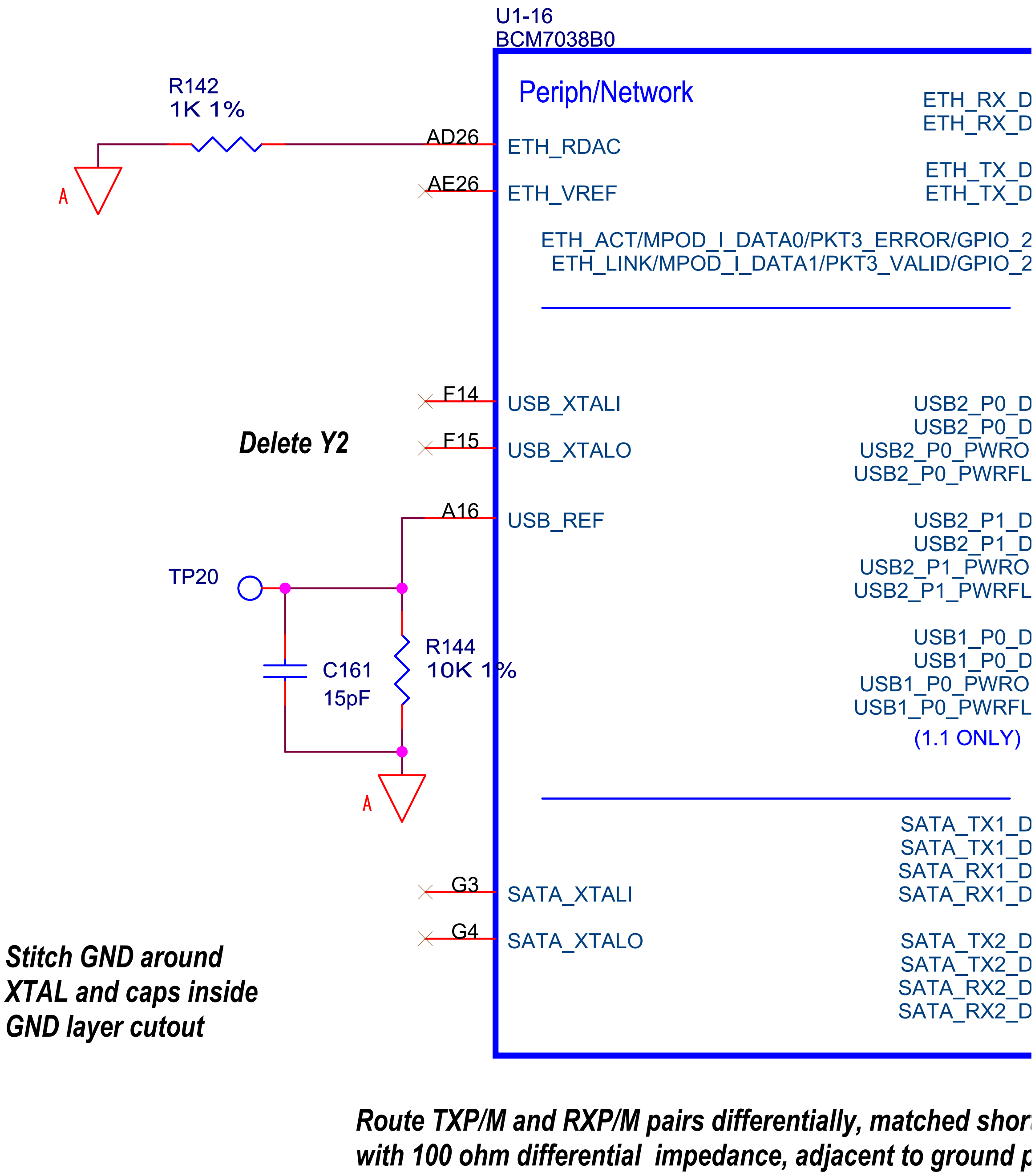

A
B
C
D
E
F
U1-5
BCM7038B0
Smartcards
HD_DVI1-4/SC0_VCC L27
HD_DVI1-2/SC0_RST K25
HD_DVI1-3/SC0_PRES J25
HD_DVI1-1/SC0_CLK L26
HD_DVI1-0/SC0_IO L25
HD_DVI1-9/NDS_SC_VCC/SC1_VCC K29
HD_DVI1-7/NDS_SC_RST/SC1_RST K28
HD_DVI1-8/NDS_SC_PRES/SC1_PRES K26
HD_DVI1-6/NDS_SC_CLK/SC1_CLK K27
HD_DVI1-5/NDS_SC_IO/SC1_IO L28
SC_EXT_CLK/GPIO41 C27
LED_LD5/NDS_SC_AUX0/SCR_KEY_OUT/GPIO42 E23
LED_LD6/NDS_SC_AUX1/SCR__EXP_6dB/GPIO43 D25
LED_LD7/NDS_SC_VPP/SCR__EXP_10dB/GPIO44 B24
Soft Modem
CODEC_MCLK/SC2_VCC/GPIO_04 B27
CODEC_SDO/SC2_PRES/GPIO_03 A29
CODEC_FSYNC/SC2_RST/GPIO_02 A28
CODEC_SCLK/SC2_CLK/GPIO_01 A27
CODEC_SDI/SC2_IO/GPIO_00 A26
BGA841\AJ29\1.27
100BCM7038B2
D3.3V
R332
R0402
210704204720
4.7K
R140
R0402
210704204720
4.7K
RN85 33
1 8
2 7
3 6
4 5
RN8P4R\0402
251083300000
WR_EE1_N
FE_RESET_N
R333 680
R0402
210504206810
To Clone Board
U1-6
BCM7038B0
Transport Inputs
Transport Outputs
17 BCM7038_PKT0_CLK
17 BCM7038_PKT0_DATA
17 BCM7038_PKT0_SYNC
BCM7038_PKT0_CLK
BCM7038_PKT0_DATA
BCM7038_PKT0_SYNC
AA25 PKT0_CLK
AB25 PKT0_DATA
AB26 PKT0_SYNC
AB27 PKT1_CLK
AB28 PKT1_DATA
AB29 PKT1_SYNC
AC27 PKT2_CLK
AC28 PKT2_DATA
AC29 PKT2_SYNC
U29 MPOD_O_DATA1/PKT3_CLK/GPIO_52
V27 MPOD_I_SYNC/PKT3_DATA/GPIO_19
V26 MPOD_I_CLK/PKT3_SYNC/GPIO_18
HSX0_CLK Y25
HSX0_DATA AA26
HSX0_SYNC Y26
MPOD_O_CLK/HSX1_CLK AA27
MPOD_O_DATA0/HSX1_DATA AA29
MPOD_O_SYNC/HSX1_SYNC AA28
BCM7038_HSX0_CLK
BCM7038_HSX0_DATA
BCM7038_HSX0_SYNC
BCM7038_HSX1_CLK_POD_O_CI
BCM7038_HSX1_DATA_POD_O_I
BCM7038_HSX1_SYNC_POD_O_
BGA841\AJ29\1.27
100BCM7038B2
D3.3V
8 7 6 5
R
1
1 2 3 4
RN8P4R\04
2510810200
D3.3V
R30
R40
1K 1%
1K 1%
R0402
R0402
210504201020
210504201020
J5
1
2
3
4
BBS_SCL
BBS_SDA
R0402 210704203300 33
R0402 210704203300 33
34 1 H6 R
35 1 H5 R
1x4 Header, 2.54pitch
MLX4P\2.54
BOM_IGNORE
U1-8
BCM7038B0
TEST
F8 TEST_MODE0
F9 TEST_MODE1
G8 TEST_MODE2
G9 TEST_MODE3
BroadBand Studio
SPI_S_SCK/BSC_S_SCL
SPI_S_MOSI/BSC_S_SDA
EJTAG_TRST A5
EJTAG_TDI F8
EJTAG_TDO A6
EJTAG_TMS B6
EJTAG_TCK C7
EJT_TRST_N
EJT_TDI
EJT_TDO
EJT_TMS
EJT_TCK
R130 0
R0402
210000000000
BGA841\AJ29\1.27
100BCM7038B2

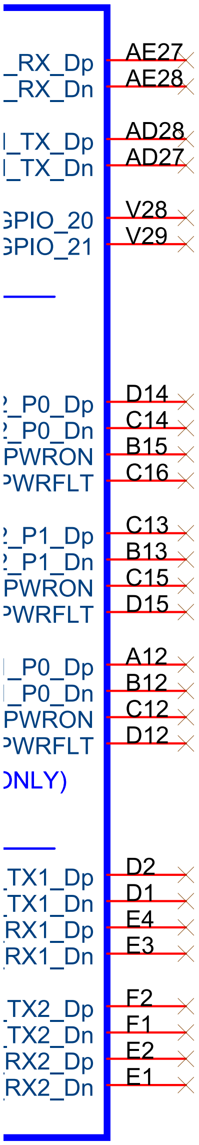

D3.3V
U25
A0
A1
A2
GND
VCC
WP
SCL
SDA
1
2
3
4
8
7
6
5
M24C256W
SO-8
100MC24LC256
R325
4.7K
R0402
210704204720
C412
0.1uF
C0402
320K016R1040
WR_EE1_N
R326
0
R0402
210000000000
R327
0
R0402
210000000000
M2_SCL
M2_SDA
M2_SCL 10,17
M2_SDA 10,17
20
ie Board
GPIO41 9
FE_RESET_N 17
30
1
LED2
RED_0603
LED0603
122002500010
2
System Hang Up
Indicator
A
C
BCM7038_HSX0_CLK 4
BCM7038_HSX0_DATA 4
BCM7038_HSX0_SYNC 4
_POD_O_CLK
A_POD_O_DATA0
C_POD_O_SYNC
BCM7038_HSX1_CLK_POD_O_CLK 4
BCM7038_HSX1_DATA_POD_O_DATA0 4
BCM7038_HSX1_SYNC_POD_O_SYNC 4
3.3V
D3.3V
6
5
3
4
RN80
1K
RN8P4R\0402
251081020000
R384
1K 1%
R0603
210506301021
R385
1K 1%
R0603
210506301021
J11
1
2
3
4
5
6
7
8
9
10
11
12
13
14
S-M-.100-2X7
CON7X2
BOM_IGNORE
EJTAG_RSTN 9

A
B
C
D
E
F

EJTAG, TS, EEPROM

9.36 DTV TUNER BOARD (11/16) [USB;ETHERNET;SATA BLOCK]


U1-16
BCM7038B0
Periph/Network
R142
1K 1%
A
AD26
ETH_RDAC
AE26
ETH_VREF
ETH_RX_D
ETH_RX_D
ETH_TX_D
ETH_TX_D
ETH_ACT/MPOD_I_DATA0/PKT3_ERROR/GPIO_2
ETH_LINK/MPOD_I_DATA1/PKT3_VALID/GPIO_2
F14
USB_XTALI
Delete Y2
F15
USB_XTALO
A16
USB_REF
USB2_P0_D
USB2_P0_D
USB2_P0_PWRO
USB2_P0_PWRFL
USB2_P1_D
USB2_P1_D
USB2_P1_PWRO
USB2_P1_PWRFL
TP20
R144
10K 1%
C161
15pF
USB1_P0_D
USB1_P0_D
USB1_P0_PWRO
USB1_P0_PWRFL
(1.1 ONLY)
A
SATA_TX1_D
SATA_TX1_D
SATA_RX1_D
SATA_RX1_D
G3
SATA_XTALI
G4
SATA_XTALO
SATA_TX2_D
SATA_TX2_D
SATA_RX2_D
SATA_RX2_D
Stitch GND around
XTAL and caps inside
GND layer cutout
Route TXP/M and RXP/M pairs differentially, matched shor
with 100 ohm differential impedance, adjacent to ground p



_RX_Dp
_RX_Dn
AE27
AE28
_TX_Dp
_TX_Dn
AD28
AD27
GPIO_20
GPIO_21
V28
V29
_P0_Dp
_P0_Dn
PWRON
PWRFLT
D14
C14
B15
C16
_P1_Dp
_P1_Dn
PWRON
PWRFLT
C13
B13
C15
D15
_P0_Dp
_P0_Dn
PWRON
PWRFLT
A12
B12
C12
D12
NLY)
TX1_Dp
TX1_Dn
RX1_Dp
RX1_Dn
D2
D1
E4
E3
TX2_Dp
TX2_Dn
RX2_Dp
RX2_Dn
F2
F1
E2
E1

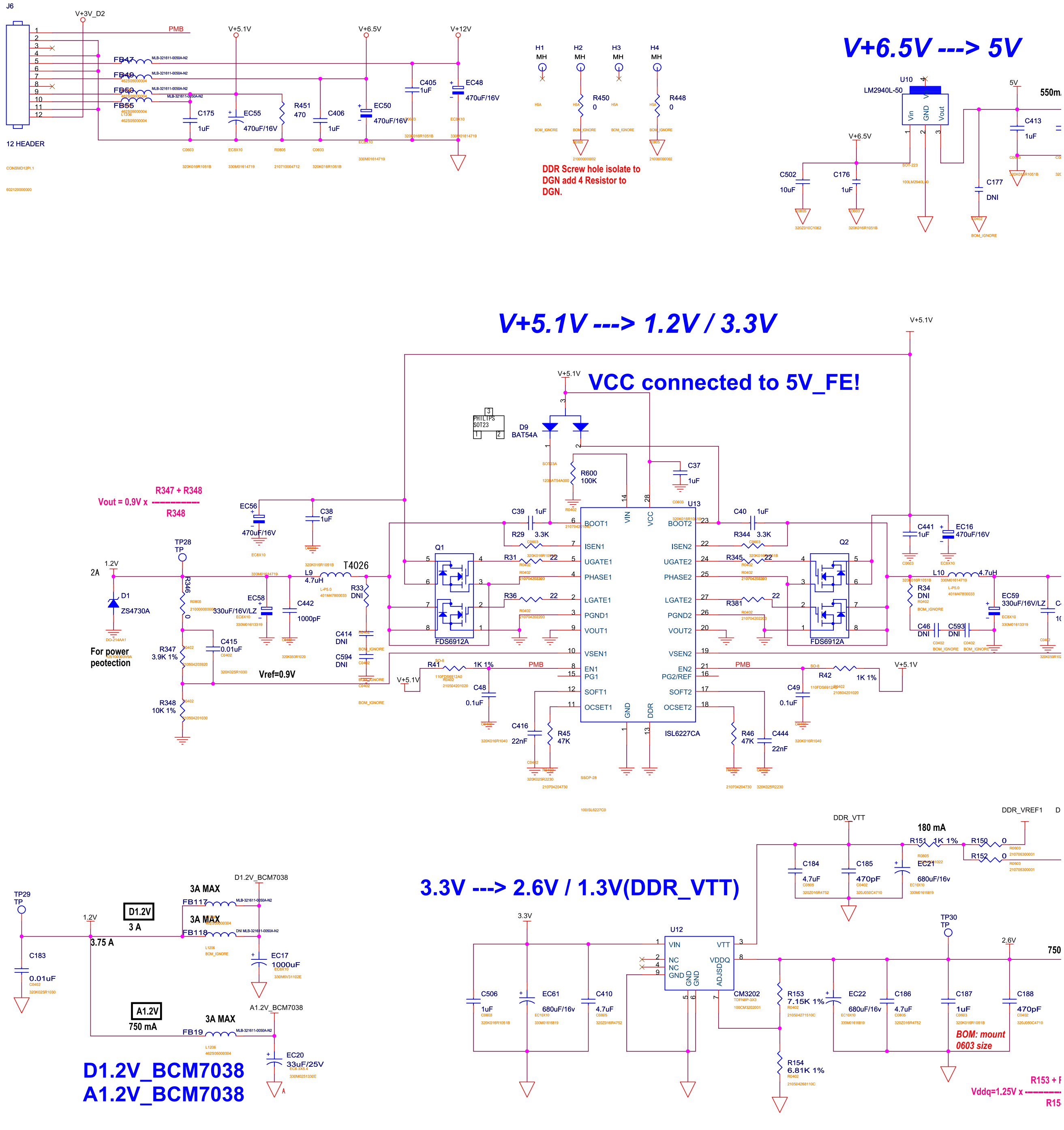
SATA & USB - Layout Guidelines & Notes

1. The Dp and Dn traces are length matched, with max differential skew, within 20mils
2. Differential trace length must be less than 5 inches
3. No more than 2 vias per trace, prefer zero.
4. Never split the ground plane under differential pair routing
5. Route differential pairs above the GND plane.
6. Differential impedance is 100 Ohms for SATA and 90 ohms for USB.
7. Adjacent differential pairs should be separated by at least 3 times the trace width.
(e.g. 7.5 mil trace, leave >22.5mils between adjacent diff pairs)
8. Stich gnd vias around each differential pair, but NOT between a given pair.
9. SATA xtal +/- 50 ppm Tolerance +/- 100 ppm Stability

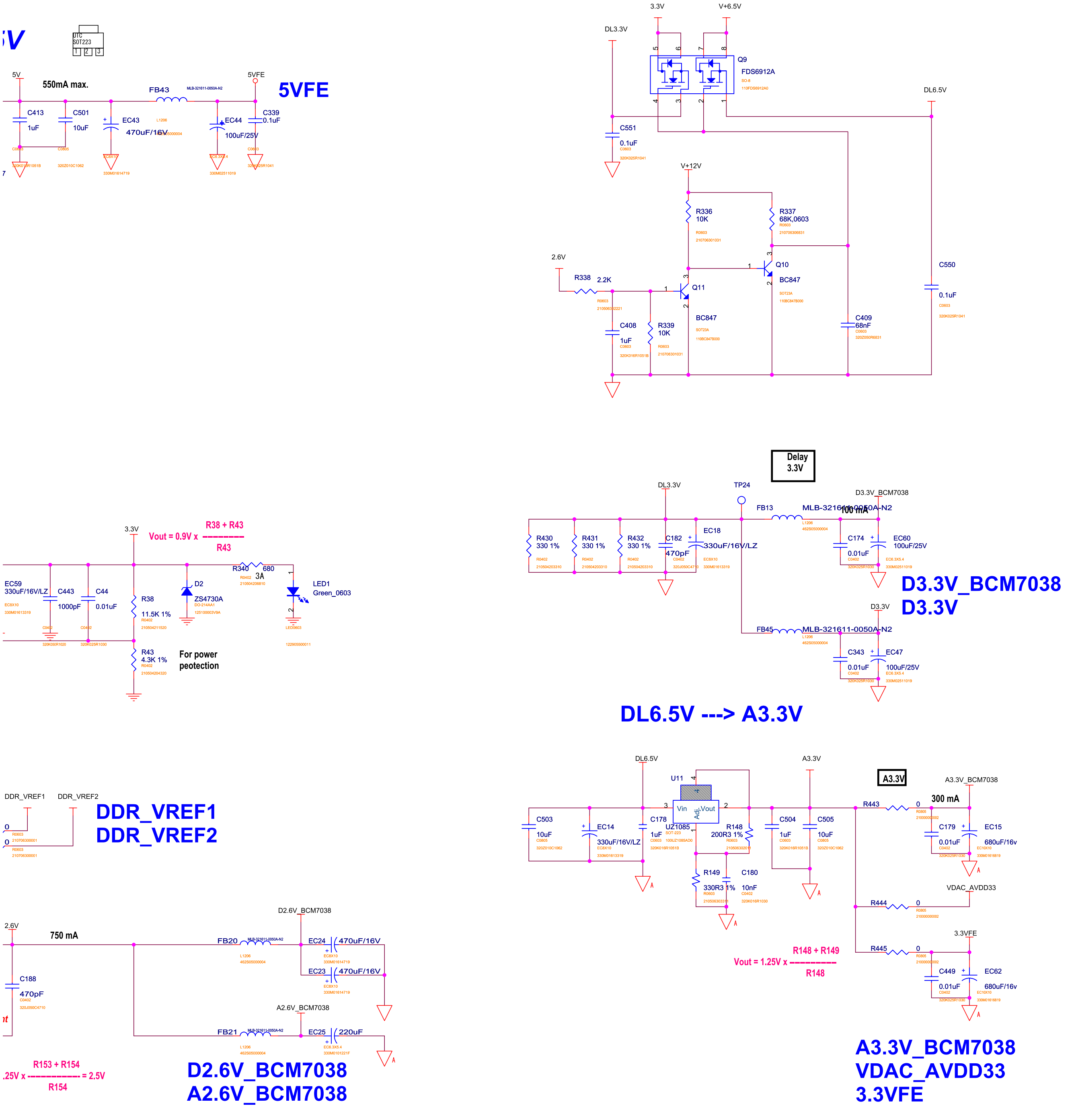
l short lengths,
und plane.

USB;Ethernet;Sata

9.37 DTV TUNER BOARD (12/16) [POWER BLOCK]



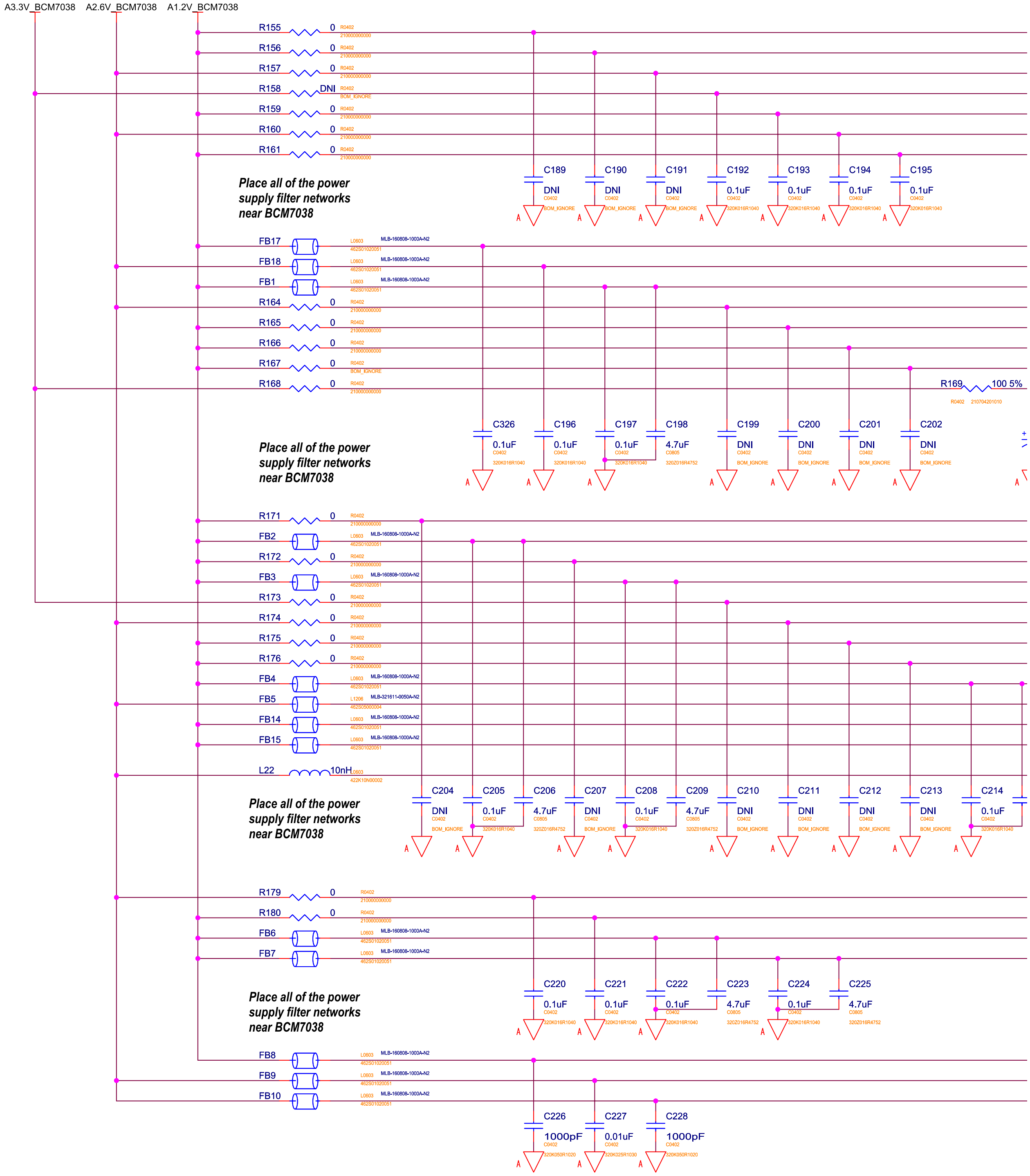
J6
12 HEADER
V+3V_D2
PMB
V+5.1V
V+6.5V
V+12V
FB47
FB49
FB53
FB55
C175 1uF
EC55 470uF/16V
R451 470
C406 1uF
EC50 470uF/16V
C405 1uF
EC48 470uF/16V
H1 MH
H2 MH
H3 MH
H4 MH
R450 0
R448 0
DDR Screw hole isolate to DGN add 4 Resistor to DGN.
V+6.5V ---> 5V
U10 LM2940L-50
Vin
GND
Vout
5V
550mA
C413 1uF
C502 10uF
C176 1uF
C177 DNI
V+5.1V ---> 1.2V / 3.3V
VCC connected to 5V_FE!
PHILIPS SOT23
D9 BAT54A
R600 100K
C37 1uF
U13
ISL6227CA
BOOT1
ISEN1
UGATE1
PHASE1
LGATE1
PGND1
VOUT1
VSEN1
EN1
PG1
SOFT1
OCSET1
VIN
VCC
GND
DDR
BOOT2
ISEN2
UGATE2
PHASE2
LGATE2
PGND2
VOUT2
VSEN2
EN2
PG2/REF
SOFT2
OCSET2
C39 1uF
R29 3.3K
R31 22
R36 22
C40 1uF
R344 3.3K
R345 22
R381 22
Q1 FDS6912A
Q2 FDS6912A
Vout = 0.9V x (R347 + R348) / R348
EC56 470uF/16V
C38 1uF
TP28 TP
1.2V
2A
T4026
L9 4.7uH
R33 DNI
EC58 330uF/16V/LZ
C442 1000pF
C414 DNI
C594 DNI
D1 ZS4730A
R346 0
For power peotection
R347 3.9K 1%
C415 0.01uF
Vref=0.9V
R348 10K 1%
R41 1K 1%
C48 0.1uF
C416 22nF
R45 47K
R46 47K
C444 22nF
R42 1K 1%
C49 0.1uF
C441 1uF
EC16 470uF/16V
L10 4.7uH
R34 DNI
C46 DNI
C593 DNI
EC59 330uF/16V/LZ
3.3V ---> 2.6V / 1.3V(DDR_VTT)
DDR_VTT
DDR_VREF1
180 mA
R151 1K 1%
R150 0
R152 0
C184 4.7uF
C185 470pF
EC21 680uF/16v
U12 CM3202
VIN
VTT
NC
VDDQ
ADJSD
3.3V
C506 1uF
EC61 680uF/16v
C410 4.7uF
R153 7.15K 1%
R154 6.81K 1%
EC22 680uF/16v
C186 4.7uF
TP30 TP
2.6V
750
C187 1uF
C188 470pF
BOM: mount 0603 size
Vddq=1.25V x (R153 + R154) / R154
TP29 TP
C183 0.01uF
1.2V
3.75 A
D1.2V
3 A
D1.2V_BCM7038
3A MAX
FB117
FB118
EC17 1000uF
A1.2V
750 mA
A1.2V_BCM7038
FB19
EC20 33uF/25V
D1.2V_BCM7038
A1.2V_BCM7038

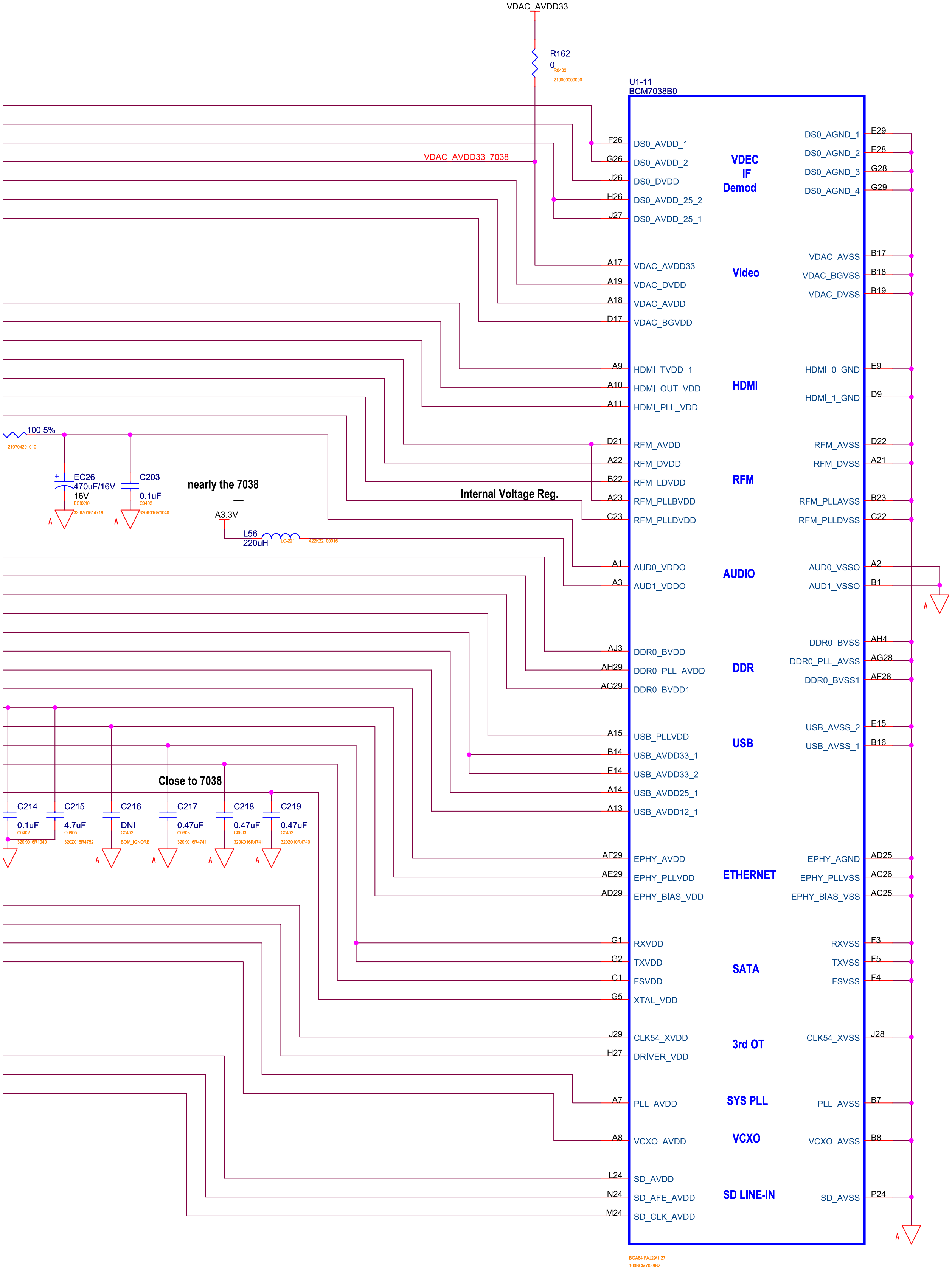


UTC
SOT223
1 2 3
5V
550mA max.
FB43
MLB-321611-0050A-N2
5VFE
5VFE
C413
1uF
C501
10uF
EC43
470uF/16V
L1206
EC44
100uF/25V
C339
0.1uF
3.3V
V+6.5V
DL3.3V
Q9
FDS6912A
DL6.5V
C551
0.1uF
V+12V
R336
10K
R337
68K,0603
2.6V
R338
2.2K
Q11
BC847
Q10
BC847
C550
0.1uF
C408
1uF
R339
10K
C409
68nF
Delay
3.3V
DL3.3V
TP24
D3.3V_BCM7038
FB13
MLB-321611-0050A-N2
100 mA
R430
330 1%
R431
330 1%
R432
330 1%
C182
470pF
EC18
330uF/16V/LZ
C174
0.01uF
EC60
100uF/25V
D3.3V_BCM7038
D3.3V
D3.3V
FB45
MLB-321611-0050A-N2
C343
0.01uF
EC47
100uF/25V
3.3V
R38 + R43
Vout = 0.9V x
R43
EC59
330uF/16V/LZ
C443
1000pF
C44
0.01uF
R38
11.5K 1%
D2
ZS4730A
R340
680
3A
LED1
Green_0603
R43
4.3K 1%
For power
peotection
DL6.5V ---> A3.3V
DL6.5V
A3.3V
U11
UZ1085
Vin
Adj
Vout
A3.3V
A3.3V_BCM7038
R443
0
300 mA
C503
10uF
EC14
330uF/16V/LZ
C178
1uF
R148
200R3 1%
C504
1uF
C505
10uF
C179
0.01uF
EC15
680uF/16v
R149
330R3 1%
C180
10nF
VDAC_AVDD33
R444
0
3.3VFE
R445
0
R148 + R149
Vout = 1.25V x
R148
C449
0.01uF
EC62
680uF/16v
A3.3V_BCM7038
VDAC_AVDD33
3.3VFE
DDR_VREF1
DDR_VREF2
DDR_VREF1
DDR_VREF2
2.6V
750 mA
D2.6V_BCM7038
FB20
EC24
470uF/16V
EC23
470uF/16V
C188
470pF
A2.6V_BCM7038
FB21
EC25
220uF
R153 + R154
.25V x
= 2.5V
R154
D2.6V_BCM7038
A2.6V_BCM7038

POWER

9.38 DTV TUNER BOARD (13/16) [ANALOG DECOUPLING BLOCK]

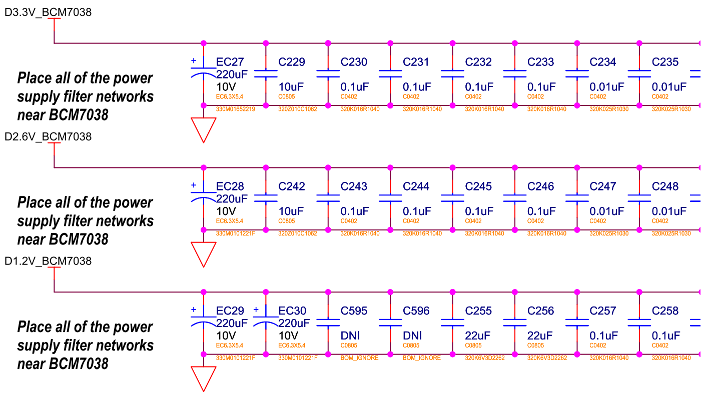

A3.3V_BCM7038
A2.6V_BCM7038
A1.2V_BCM7038
R155 0
R156 0
R157 0
R158 DNI
R159 0
R160 0
R161 0
Place all of the power supply filter networks near BCM7038
C189 DNI
C190 DNI
C191 DNI
C192 0.1uF
C193 0.1uF
C194 0.1uF
C195 0.1uF
FB17
FB18
FB1
MLB-160808-1000A-N2
R164 0
R165 0
R166 0
R167 0
R168 0
R169 100 5%
C326 0.1uF
C196 0.1uF
C197 0.1uF
C198 4.7uF
C199 DNI
C200 DNI
C201 DNI
C202 DNI
Place all of the power supply filter networks near BCM7038
R171 0
FB2
R172 0
FB3
R173 0
R174 0
R175 0
R176 0
FB4
FB5
MLB-321611-0050A-N2
FB14
FB15
L22 10nH
C204 DNI
C205 0.1uF
C206 4.7uF
C207 DNI
C208 0.1uF
C209 4.7uF
C210 DNI
C211 DNI
C212 DNI
C213 DNI
C214 0.1uF
Place all of the power supply filter networks near BCM7038
R179 0
R180 0
FB6
FB7
C220 0.1uF
C221 0.1uF
C222 0.1uF
C223 4.7uF
C224 0.1uF
C225 4.7uF
Place all of the power supply filter networks near BCM7038
FB8
FB9
FB10
C226 1000pF
C227 0.01uF
C228 1000pF

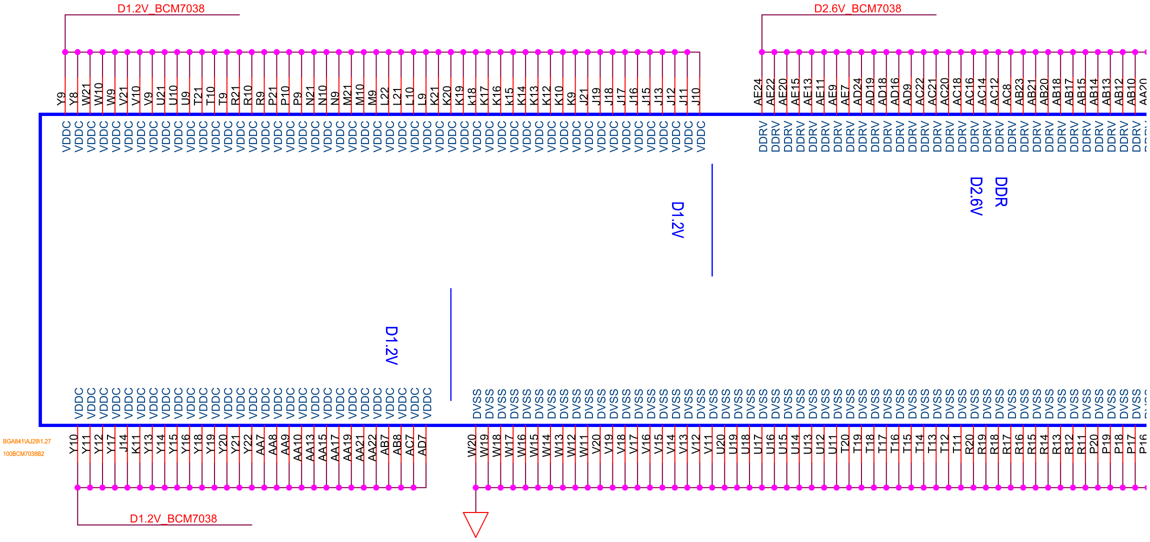


VDAC_AVDD33
R162
0
R0402
210000000000
U1-11
BCM7038B0
VDAC_AVDD33_7038
F26 DS0_AVDD_1
G26 DS0_AVDD_2
J26 DS0_DVDD
H26 DS0_AVDD_25_2
J27 DS0_AVDD_25_1
VDEC
IF
Demod
DS0_AGND_1 E29
DS0_AGND_2 E28
DS0_AGND_3 G28
DS0_AGND_4 G29
A17 VDAC_AVDD33
A19 VDAC_DVDD
A18 VDAC_AVDD
D17 VDAC_BGVDD
Video
VDAC_AVSS B17
VDAC_BGVSS B18
VDAC_DVSS B19
A9 HDMI_TVDD_1
A10 HDMI_OUT_VDD
A11 HDMI_PLL_VDD
HDMI
HDMI_0_GND E9
HDMI_1_GND D9
100 5%
210704201010
EC26
470uF/16V
16V
EC8X10
330M01614719
C203
0.1uF
C0402
320K016R1040
nearly the 7038
Internal Voltage Reg.
A3.3V
L56
220uH
LC-221
422K22100016
D21 RFM_AVDD
A22 RFM_DVDD
B22 RFM_LDVDD
A23 RFM_PLLBVDD
C23 RFM_PLLDVDD
RFM
RFM_AVSS D22
RFM_DVSS A21
RFM_PLLAVSS B23
RFM_PLLDVSS C22
A1 AUD0_VDDO
A3 AUD1_VDDO
AUDIO
AUD0_VSSO A2
AUD1_VSSO B1
AJ3 DDR0_BVDD
AH29 DDR0_PLL_AVDD
AG29 DDR0_BVDD1
DDR
DDR0_BVSS AH4
DDR0_PLL_AVSS AG28
DDR0_BVSS1 AF28
A15 USB_PLLVDD
B14 USB_AVDD33_1
E14 USB_AVDD33_2
A14 USB_AVDD25_1
A13 USB_AVDD12_1
USB
USB_AVSS_2 E15
USB_AVSS_1 B16
Close to 7038
C214
0.1uF
C0402
320K016R1040
C215
4.7uF
C0805
320Z016R4752
C216
DNI
C0402
BOM_IGNORE
C217
0.47uF
C0603
320K016R4741
C218
0.47uF
C0603
320K016R4741
C219
0.47uF
C0402
320Z010R4740
AF29 EPHY_AVDD
AE29 EPHY_PLLVDD
AD29 EPHY_BIAS_VDD
ETHERNET
EPHY_AGND AD25
EPHY_PLLVSS AC26
EPHY_BIAS_VSS AC25
G1 RXVDD
G2 TXVDD
C1 FSVDD
G5 XTAL_VDD
SATA
RXVSS F3
TXVSS F5
FSVSS F4
J29 CLK54_XVDD
H27 DRIVER_VDD
3rd OT
CLK54_XVSS J28
A7 PLL_AVDD
SYS PLL
PLL_AVSS B7
A8 VCXO_AVDD
VCXO
VCXO_AVSS B8
L24 SD_AVDD
N24 SD_AFE_AVDD
M24 SD_CLK_AVDD
SD LINE-IN
SD_AVSS P24
BGA841NJ29/1.27
100BCM7038B2

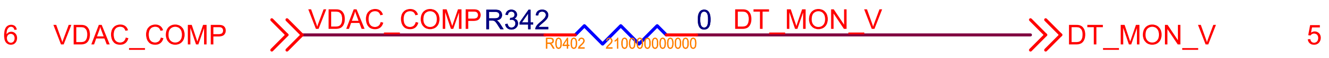
Analog Decoupling

9.39 DTV TUNER BOARD (14/16) [VIDEO BUFFERS, DIGITAL DECOUPLING BLOCK]

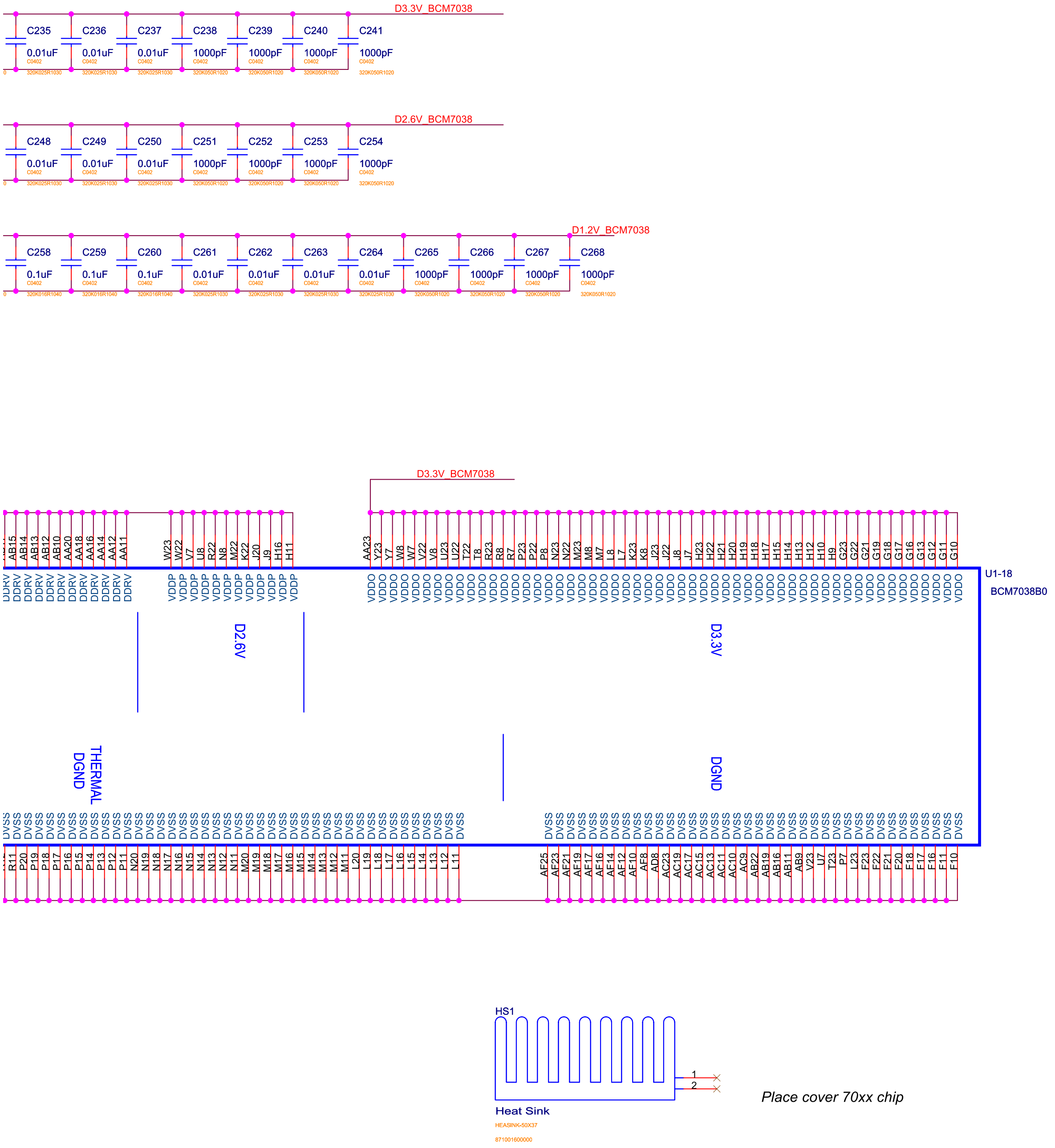

D3.3V_BCM7038
Place all of the power supply filter networks near BCM7038
EC27 220uF 10V
C229 10uF
C230 0.1uF
C231 0.1uF
C232 0.1uF
C233 0.1uF
C234 0.01uF
C235 0.01uF
D2.6V_BCM7038
Place all of the power supply filter networks near BCM7038
EC28 220uF 10V
C242 10uF
C243 0.1uF
C244 0.1uF
C245 0.1uF
C246 0.1uF
C247 0.01uF
C248 0.01uF
D1.2V_BCM7038
Place all of the power supply filter networks near BCM7038
EC29 220uF 10V
EC30 220uF 10V
C595 DNI
C596 DNI
C255 22uF
C256 22uF
C257 0.1uF
C258 0.1uF


D1.2V_BCM7038
D2.6V_BCM7038
Y9 Y8 W21 W10 W9 V21 V10 V9 U21 U10 U9 T21 T10 T9 R21 R10 R9 P21 P10 P9 N21 N10 N9 M21 M10 M9 L22 L21 L10 L9 K21 K20 K19 K18 K17 K16 K15 K14 K13 K12 K10 K9 J21 J19 J18 J17 J16 J15 J13 J12 J11 J10
VDDC
AE24 AE22 AE20 AE15 AE13 AE11 AE9 AE7 AD24 AD19 AD18 AD16 AD9 AC22 AC21 AC20 AC18 AC16 AC14 AC12 AC8 AB23 AB21 AB20 AB18 AB17 AB15 AB14 AB13 AB12 AB10 AA20
DDRV
D1.2V
DDR D2.6V
D1.2V
VDDC
DVSS
Y10 Y11 Y12 Y17 J14 K11 Y13 Y14 Y15 Y16 Y18 Y19 Y20 Y21 Y22 AA7 AA8 AA9 AA10 AA13 AA15 AA17 AA19 AA21 AA22 AB7 AB8 AC7 AD7
W20 W19 W18 W17 W16 W15 W14 W13 W12 W11 V20 V19 V18 V17 V16 V15 V14 V13 V12 V11 U20 U19 U18 U17 U16 U15 U14 U13 U12 U11 T20 T19 T18 T17 T16 T15 T14 T13 T12 T11 R20 R19 R18 R17 R16 R15 R14 R13 R12 R11 P20 P19 P18 P17 P16
D1.2V_BCM7038

Modify (Cut video buffer)


6
VDAC_COMP
VDAC_COMP
R342
0
DT_MON_V
R0402
210000000000
DT_MON_V
5

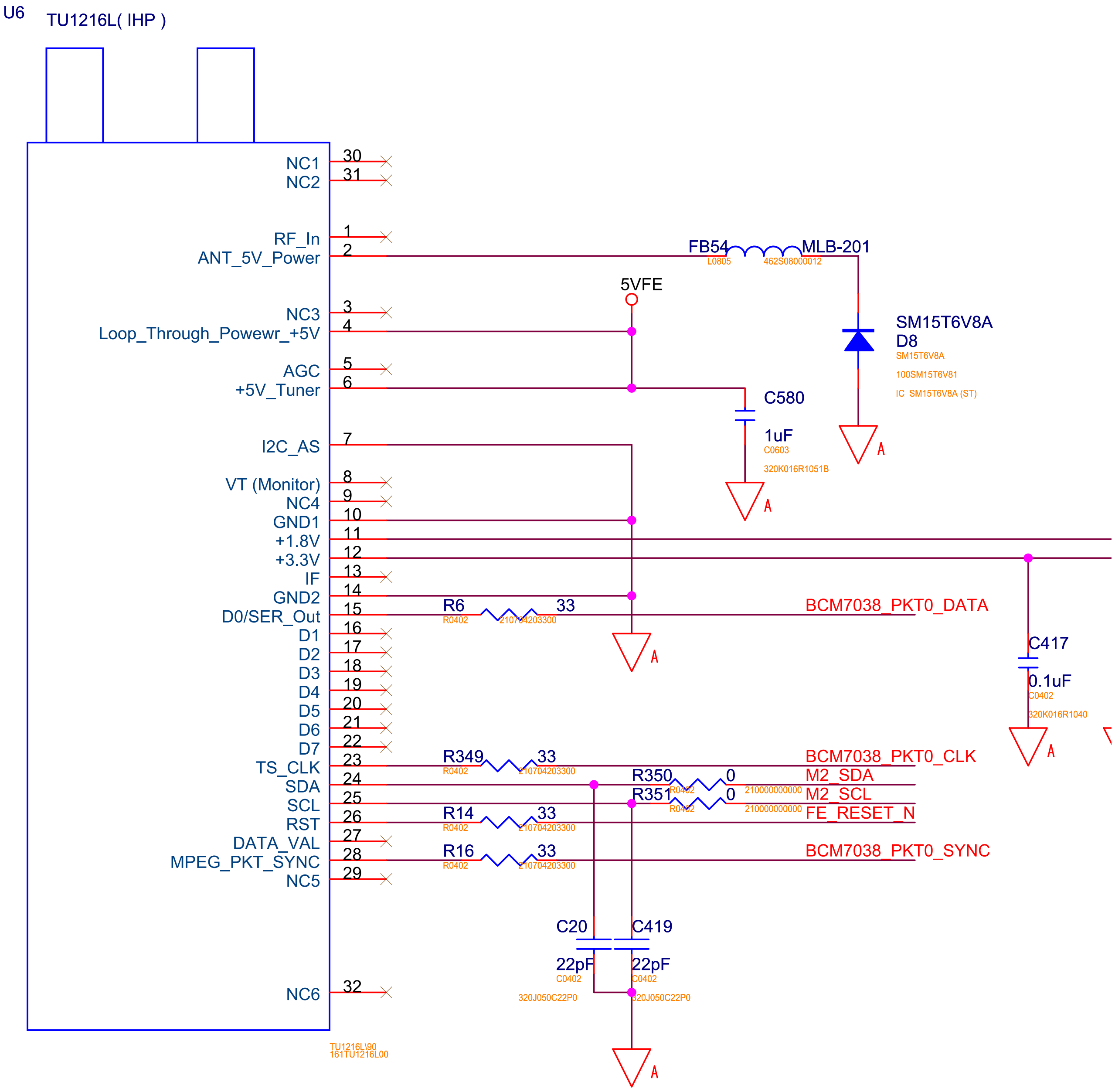
Video Buffers

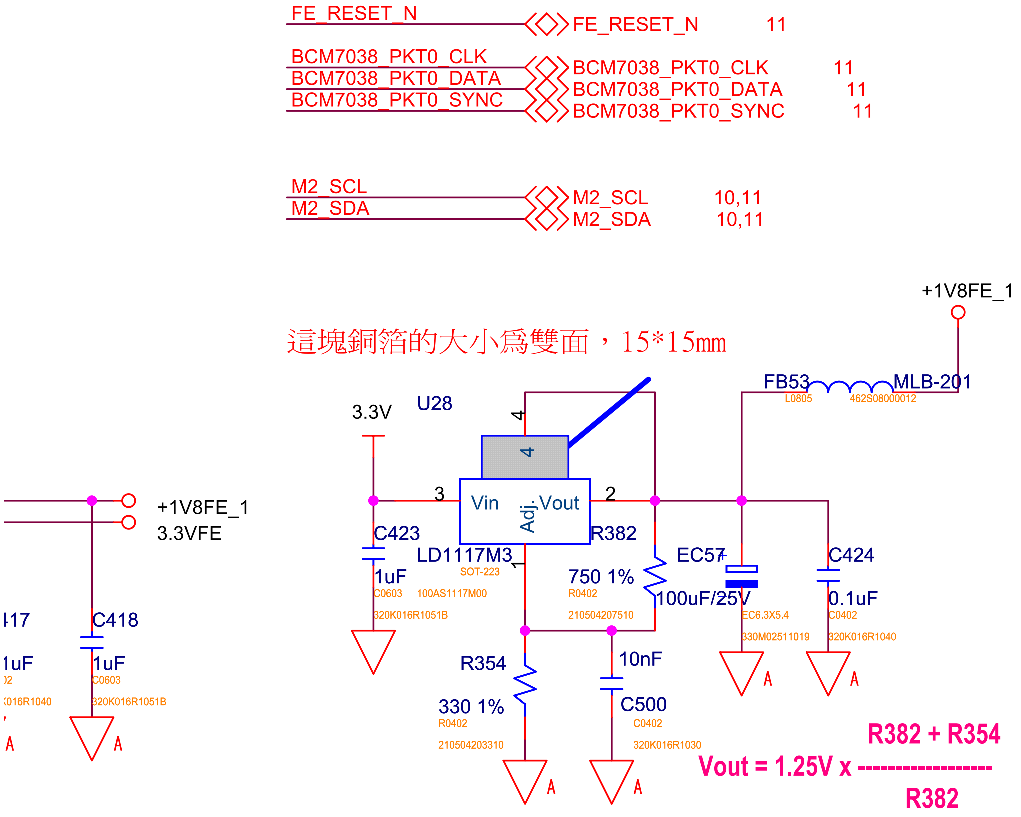

D3.3V_BCM7038
C235 0.01uF C0402 320K025R1030
C236 0.01uF C0402 320K025R1030
C237 0.01uF C0402 320K025R1030
C238 1000pF C0402 320K050R1020
C239 1000pF C0402 320K050R1020
C240 1000pF C0402 320K050R1020
C241 1000pF C0402 320K050R1020
D2.6V_BCM7038
C248 0.01uF C0402 320K025R1030
C249 0.01uF C0402 320K025R1030
C250 0.01uF C0402 320K025R1030
C251 1000pF C0402 320K050R1020
C252 1000pF C0402 320K050R1020
C253 1000pF C0402 320K050R1020
C254 1000pF C0402 320K050R1020
D1.2V_BCM7038
C258 0.1uF C0402 320K016R1040
C259 0.1uF C0402 320K016R1040
C260 0.1uF C0402 320K016R1040
C261 0.01uF C0402 320K025R1030
C262 0.01uF C0402 320K025R1030
C263 0.01uF C0402 320K025R1030
C264 0.01uF C0402 320K025R1030
C265 1000pF C0402 320K050R1020
C266 1000pF C0402 320K050R1020
C267 1000pF C0402 320K050R1020
C268 1000pF C0402 320K050R1020
D3.3V_BCM7038
AB15 AB14 AB13 AB12 AB10 AA20 AA18 AA16 AA14 AA12 AA11
DDRV DDRV DDRV DDRV DDRV DDRV DDRV DDRV DDRV DDRV DDRV DDRV
W23 W22 V7 U8 R22 N8 M22 K22 J20 J9 H16 H11
VDDP VDDP VDDP VDDP VDDP VDDP VDDP VDDP VDDP VDDP VDDP VDDP
D2.6V
AA23 Y23 Y7 W8 W7 V22 V8 U23 U22 T22 T8 R23 R8 R7 P23 P22 P8 N23 N22 M23 M8 M7 L8 L7 K23 K8 J23 J22 J8 J7 H23 H22 H21 H20 H19 H18 H17 H15 H14 H13 H12 H10 H9 G23 G22 G21 G19 G18 G17 G16 G13 G12 G11 G10
VDDO
D3.3V
U1-18
BCM7038B0
THERMAL
DGND
DGND
DVSS
R11 P20 P19 P18 P17 P16 P15 P14 P13 P12 P11 N20 N19 N18 N17 N16 N15 N14 N13 N12 N11 M20 M19 M18 M17 M16 M15 M14 M13 M12 M11 L20 L19 L18 L17 L16 L15 L14 L13 L12 L11
AF25 AF23 AF21 AF19 AF17 AF16 AF14 AF12 AF10 AF8 AD8 AC23 AC19 AC17 AC15 AC13 AC11 AC10 AC9 AB22 AB19 AB16 AB11 AB9 V23 U7 T23 P7 L23 F23 F22 F21 F20 F18 F17 F16 F11 F10
HS1
1
2
Heat Sink
HEASINK-50X37
871001600000

Place cover 70xx chip

Digital Decoupling

9.40 DTV TUNER BOARD (15/16) [FRONT END BLOCK]

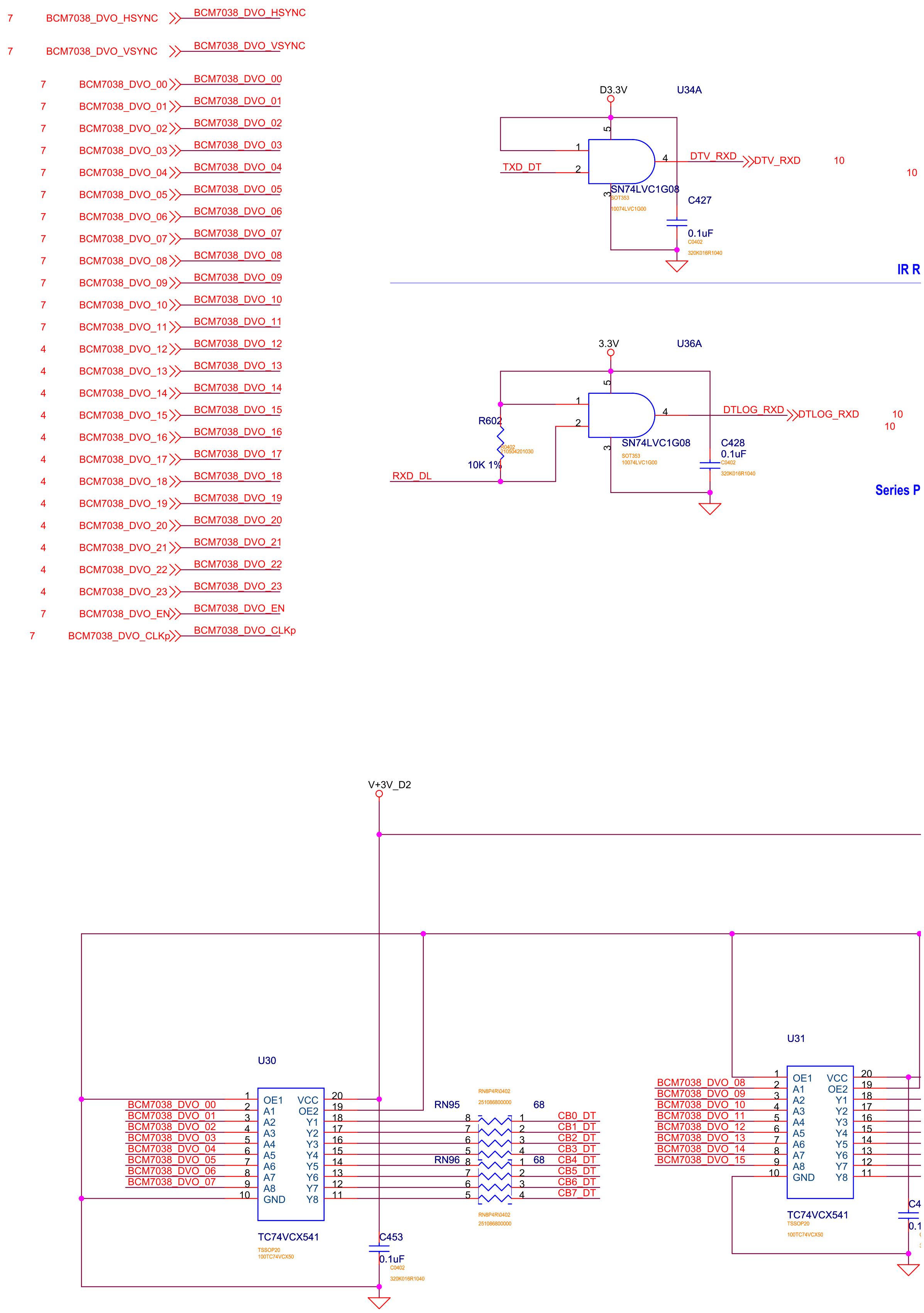

U6
TU1216L(IHP)
NC1
30
NC2
31
RF_In
1
ANT_5V_Power
2
NC3
3
Loop_Through_Powewr_+5V
4
AGC
5
+5V_Tuner
6
I2C_AS
7
VT (Monitor)
8
NC4
9
GND1
10
+1.8V
11
+3.3V
12
IF
13
GND2
14
D0/SER_Out
15
D1
16
D2
17
D3
18
D4
19
D5
20
D6
21
D7
22
TS_CLK
23
SDA
24
SCL
25
RST
26
DATA_VAL
27
MPEG_PKT_SYNC
28
NC5
29
NC6
32
TU1216L\90
161TU1216L00
FB54
L0805
MLB-201
462S08000012
5VFE
SM15T6V8A
D8
SM15T6V8A
100SM15T6V81
IC SM15T6V8A (ST)
A
C580
1uF
C0603
320K016R1051B
A
R6
R0402
33
210704203300
BCM7038_PKT0_DATA
A
C417
0.1uF
C0402
320K016R1040
A
R349
R0402
33
210704203300
BCM7038_PKT0_CLK
R350
R0402
0
210000000000
M2_SDA
R351
R0402
0
210000000000
M2_SCL
R14
R0402
33
210704203300
FE_RESET_N
R16
R0402
33
210704203300
BCM7038_PKT0_SYNC
C20
22pF
C0402
320J050C22P0
C419
22pF
C0402
320J050C22P0
A

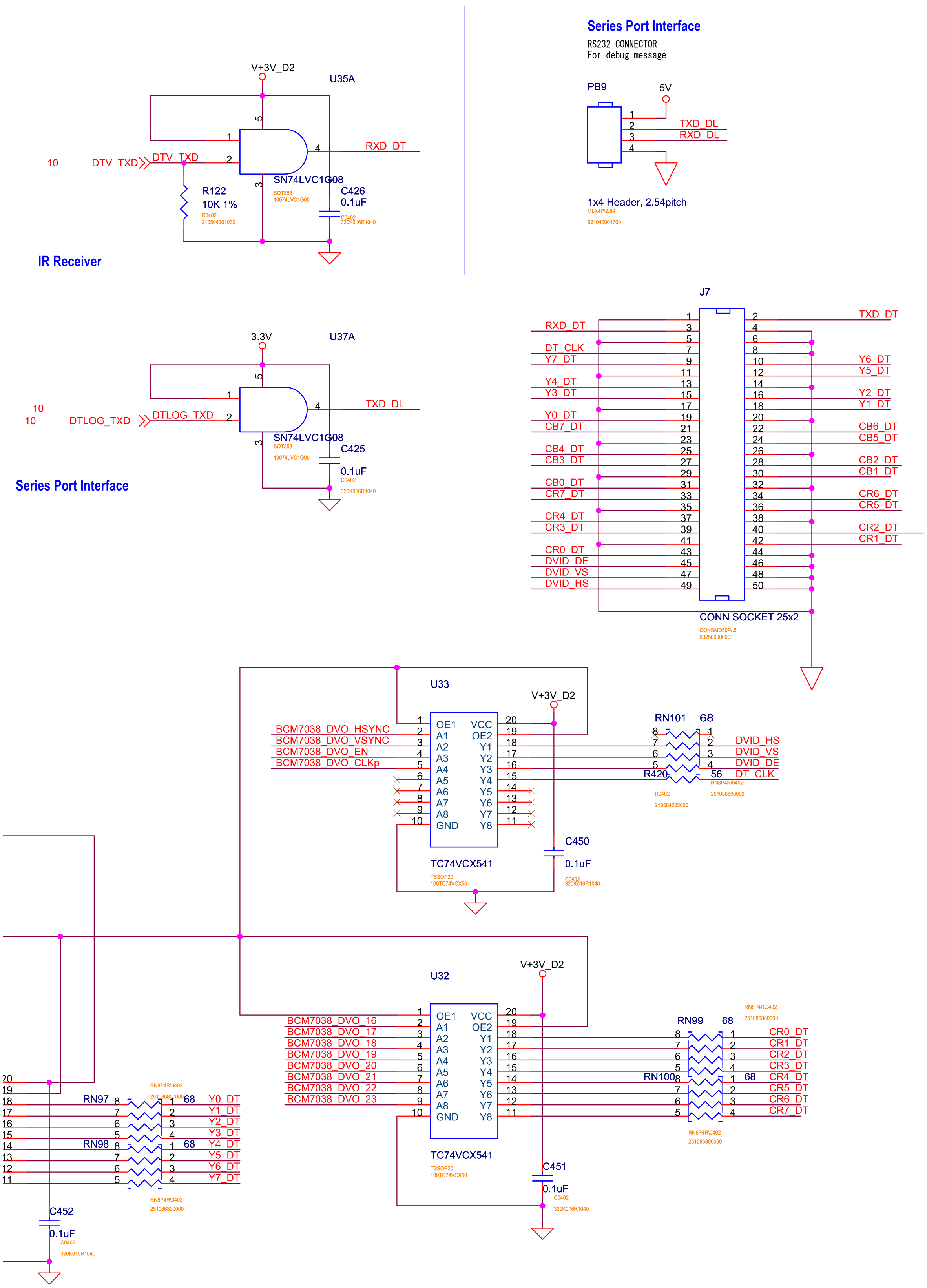

FE_RESET_N
FE_RESET_N 11
BCM7038_PKT0_CLK
BCM7038_PKT0_DATA
BCM7038_PKT0_SYNC
BCM7038_PKT0_CLK 11
BCM7038_PKT0_DATA 11
BCM7038_PKT0_SYNC 11
M2_SCL
M2_SDA
M2_SCL 10,11
M2_SDA 10,11
+1V8FE_1
這塊銅箔的大小爲雙面，15*15mm
FB53
L0805
MLB-201
462S08000012
3.3V
U28
4
4
3
2
Vin
Adj.
Vout
1
LD1117M3
SOT-223
100AS1117M00
+1V8FE_1
3.3VFE
C423
1uF
C0603
320K016R1051B
R382
750 1%
R0402
210504207510
EC57
100uF/25V
EC6.3X5.4
330M02511019
C424
0.1uF
C0402
320K016R1040
417
1uF
C418
1uF
C0603
320K016R1051B
016R1040
R354
330 1%
R0402
210504203310
10nF
C500
C0402
320K016R1030
A
R382 + R354
Vout = 1.25V x ------------------
R382

3.3V ---> +1V8FE_1

Front End

9.41 DTV TUNER BOARD (16/16) [INTER-CONNECTION BLOCK]


7 BCM7038_DVO_HSYNC BCM7038_DVO_HSYNC
7 BCM7038_DVO_VSYNC BCM7038_DVO_VSYNC
7 BCM7038_DVO_00 BCM7038_DVO_00
7 BCM7038_DVO_01 BCM7038_DVO_01
7 BCM7038_DVO_02 BCM7038_DVO_02
7 BCM7038_DVO_03 BCM7038_DVO_03
7 BCM7038_DVO_04 BCM7038_DVO_04
7 BCM7038_DVO_05 BCM7038_DVO_05
7 BCM7038_DVO_06 BCM7038_DVO_06
7 BCM7038_DVO_07 BCM7038_DVO_07
7 BCM7038_DVO_08 BCM7038_DVO_08
7 BCM7038_DVO_09 BCM7038_DVO_09
7 BCM7038_DVO_10 BCM7038_DVO_10
7 BCM7038_DVO_11 BCM7038_DVO_11
4 BCM7038_DVO_12 BCM7038_DVO_12
4 BCM7038_DVO_13 BCM7038_DVO_13
4 BCM7038_DVO_14 BCM7038_DVO_14
4 BCM7038_DVO_15 BCM7038_DVO_15
4 BCM7038_DVO_16 BCM7038_DVO_16
4 BCM7038_DVO_17 BCM7038_DVO_17
4 BCM7038_DVO_18 BCM7038_DVO_18
4 BCM7038_DVO_19 BCM7038_DVO_19
4 BCM7038_DVO_20 BCM7038_DVO_20
4 BCM7038_DVO_21 BCM7038_DVO_21
4 BCM7038_DVO_22 BCM7038_DVO_22
4 BCM7038_DVO_23 BCM7038_DVO_23
7 BCM7038_DVO_EN BCM7038_DVO_EN
7 BCM7038_DVO_CLKp BCM7038_DVO_CLKp
D3.3V
U34A
TXD_DT
DTV_RXD
DTV_RXD 10
10
SN74LVC1G08
SOT353
10074LVC1G00
C427
0.1uF
C0402
320K016R1040
IR R
3.3V
U36A
R602
R0402
210504201030
10K 1%
RXD_DL
SN74LVC1G08
SOT353
10074LVC1G00
DTLOG_RXD
DTLOG_RXD 10
10
C428
0.1uF
C0402
320K016R1040
Series P
V+3V_D2
U30
OE1 A1 A2 A3 A4 A5 A6 A7 A8 GND
VCC OE2 Y1 Y2 Y3 Y4 Y5 Y6 Y7 Y8
TC74VCX541
TSSOP20
100TC74VCX50
C453
0.1uF
C0402
320K016R1040
RN95
RN8P4R\0402
251086800000
68
RN96
68
RN8P4R\0402
251086800000
CB0_DT
CB1_DT
CB2_DT
CB3_DT
CB4_DT
CB5_DT
CB6_DT
CB7_DT
U31
BCM7038_DVO_08
BCM7038_DVO_09
BCM7038_DVO_10
BCM7038_DVO_11
BCM7038_DVO_12
BCM7038_DVO_13
BCM7038_DVO_14
BCM7038_DVO_15
TC74VCX541
TSSOP20
100TC74VCX50
C4
0.1


Series Port Interface
RS232 CONNECTOR
For debug message
PB9
5V
TXD_DL
RXD_DL
1x4 Header, 2.54pitch
MLX4P\2.54
621040001700
V+3V_D2
U35A
RXD_DT
10
DTV_TXD
DTV_TXD
SN74LVC1G08
SOT353
10074LVC1G00
R122
10K 1%
R0402
210504201030
C426
0.1uF
C0402
320K016R1040
IR Receiver
3.3V
U37A
TXD_DL
10
10
DTLOG_TXD
DTLOG_TXD
SN74LVC1G08
SOT353
10074LVC1G00
C425
0.1uF
C0402
320K016R1040
Series Port Interface
J7
RXD_DT
DT_CLK
Y7_DT
Y4_DT
Y3_DT
Y0_DT
CB7_DT
CB4_DT
CB3_DT
CB0_DT
CR7_DT
CR4_DT
CR3_DT
CR0_DT
DVID_DE
DVID_VS
DVID_HS
TXD_DT
Y6_DT
Y5_DT
Y2_DT
Y1_DT
CB6_DT
CB5_DT
CB2_DT
CB1_DT
CR6_DT
CR5_DT
CR2_DT
CR1_DT
CONN SOCKET 25x2
CONSMD50P/.5
602500000001
U33
V+3V_D2
BCM7038_DVO_HSYNC
BCM7038_DVO_VSYNC
BCM7038_DVO_EN
BCM7038_DVO_CLKp
OE1 VCC
A1 OE2
A2 Y1
A3 Y2
A4 Y3
A5 Y4
A6 Y5
A7 Y6
A8 Y7
GND Y8
TC74VCX541
TSSOP20
100TC74VCX50
C450
0.1uF
C0402
320K016R1040
RN101 68
R420 56
DVID_HS
DVID_VS
DVID_DE
DT_CLK
RN8P4R\0402
251086800000
R0402
210504205600
U32
V+3V_D2
BCM7038_DVO_16
BCM7038_DVO_17
BCM7038_DVO_18
BCM7038_DVO_19
BCM7038_DVO_20
BCM7038_DVO_21
BCM7038_DVO_22
BCM7038_DVO_23
TC74VCX541
TSSOP20
100TC74VCX50
C451
0.1uF
C0402
320K016R1040
RN99 68
RN100 68
RN8P4R\0402
251086800000
CR0_DT
CR1_DT
CR2_DT
CR3_DT
CR4_DT
CR5_DT
CR6_DT
CR7_DT
RN97 68
RN98 68
RN8P4R\0402
251086800000
Y0_DT
Y1_DT
Y2_DT
Y3_DT
Y4_DT
Y5_DT
Y6_DT
Y7_DT
C452
0.1uF
C0402
320K016R1040

Inter-Connection

9.42 VOLTAGES

DIGITAL Assy **MTB MAIN Assy**

D11 CN3001(AKM1349)		Voltage (V)	M1 CN4101(AKM1349)	
No.	Name		Name	No.
1	GND	0	GND	50
2	NC	0	LVDS_ON	49
3	REQ_MD	0	REQ_MD	48
4	RXD_MD	3.3	RXD_MD	47
5	TXD_MD	3.3	TXD_MD	46
6	GND	0	GND	45
7	GND	0	GND	44
8	GND	0	LVDS_E1+	43
9	GND	0	LVDS_E1-	42
10	GND	0	GND	41
11	GND	0	LVDS_D1+	40
12	GND	0	LVDS_D1-	39
13	GND	0	GND	38
14	GND	0	LVDS_CLK1+	37
15	GND	0	LVDS_CLK1-	36
16	GND	0	GND	35
17	GND	0	LVDS_C1+	34
18	GND	0	LVDS_C1-	33
19	GND	0	GND	32
20	GND	0	LVDS_B1+	31
21	GND	0	LVDS_B1-	30
22	GND	0	GND	29
23	GND	0	LVDS_A1+	28
24	GND	0	LVDS_A1-	27
25	GND	0	GND	26
26	GND	0	GND	25
27	LVDS_E0+	0.7Vp-p	LVDS_E0+	24
28	LVDS_E0-	0.7Vp-p	LVDS_E0-	23
29	GND	0	GND	22
30	LVDS_D0+	0.7Vp-p	LVDS_D0+	21
31	LVDS_D0-	0.7Vp-p	LVDS_D0-	20
32	GND	0	GND	19
33	LVDS_CLK0+	0.7Vp-p	LVDS_CLK0+	18
34	LVDS_CLK0-	0.7Vp-p	LVDS_CLK0-	17
35	GND	0	GND	16
36	LVDS_C0+	0.7Vp-p	LVDS_C0+	15
37	LVDS_C0-	0.7Vp-p	LVDS_C0-	14
38	GND	0	GND	13
39	LVDS_B0+	0.7Vp-p	LVDS_B0+	12
40	LVDS_B0-	0.7Vp-p	LVDS_B0-	11
41	GND	0	GND	10
42	LVDS_A0+	0.7Vp-p	LVDS_A0+	9
43	LVDS_A0-	0.7Vp-p	LVDS_A0-	8
44	GND	0	GND	7
45	GND	0	GND	6
46	GND	0	(MSEL)	5
47	GND	0	RELAY2	4
48	V+3V_ACTV	3.3	V+3_3V_UCOM	3
49	GND	0	MODE	2
50	GND	0	GND	1

MTB TANSHI Ass'y **MTB MAIN Ass'y**

IO5 CN8805(AKM1377-)		Voltage	M9 CN4008(AKP1320-)	
No.	Name	(V)	Name	No.
1	GND	0	GND	1
2	V+8V_AU	8.0	V+8V_AU	2
3	GND	0	GND	3
4	V+3_3V_AU_A	3.3	V+3_3V_AU_A	4
5	GND	0	GND	5
6	V+3_3V_AU_D	3.3	V+3_3V_AU_D	6
7	GND	0	GND	7

MTB TANSHI Ass'y **MTB MAIN Ass'y**

IO3 CN8803(AKM1348- -TBB)		Voltage	M8 CN4001(AKM1348- -TBB)	
No.	Name	(V)	Name	No.
1	GND	0	GND	40
2	IO_DET	0	IO_DET	39
3	A_NG_B	2.8	A_NG_B	38
4	OTW	3.3	OTW	37
5	RST_MSP	3.3	RST_MSP	36
6	AC_A_MUTE	0	AC_A_MUTE	35
7	SDA_AV	3.4	SDA_AV	34
8	SCL_AV	3.4	SCL_AV	33
9	GND	0	GND	32
10	I2S_SDATA_EMMA(DTB)	0to3.3	I2S_SDATA_EMMA(DTB)	31
11	I2S_LRCLK_EMMA(DTB)	0to3.3	I2S_LRCLK_EMMA(DTB)	30
12	I2S_BCLK_EMMA(DTB)	0to3.3	I2S_BCLK_EMMA(DTB)	29
13	GND	0	GND	28
14	I2S_BCLK_HDMI	0to3.3	I2S_BCLK_HDMI	27
15	I2S_LRCLK_HDMI	0to3.3	I2S_LRCLK_HDMI	26
16	I2S_SDATA_HDMI	0to3.3	I2S_SDATA_HDMI	25
17	GND	0	GND	24
18	SPDIF_EMMA(DTB)	0to3.3	SPDIF_EMMA(DTB)	23
19	GND	0	GND	22
20	GND	0	GND	21
21	GND	0	GND	20
22	AC_HP_MUTE	0	AC_HP_MUTE	19
23	GND	0	GND	18
24	MON_MUTE	0	MON_MUTE	17
25	GND	0	GND	16
26	GND	0	GND	15
27	HP_PLUG	2.9	HP_PLUG	14
28	INPUT3_SPLUG	4.9	INPUT3_SPLUG	13
29	INPUT2_SPLUG	4.9	INPUT2_SPLUG	12
30	INPUT1_SPLUG	4.9	INPUT1_SPLUG	11
31	GND	0	GND	10
32	INPUT1_PLUG	0	INPUT1_PLUG	9
33	INPUT2_PLUG	0	INPUT2_PLUG	8
34	GND	0	GND	7
35	AIR SIF	0to5.0	AIR SIF	6
36	GND	0	GND	5
37	N.C.	-	N.C.	4
38	V+3.3V_STB	3.3	V+3.3V_STB	3
39	N.C.	0	N.C.	2
40	V+5V_A	5.0	V+5V_A	1

MTB TANSHI Ass'y **MTB MAIN Ass'y**

IO4 CN8804(AKM1349- -TBB)		Voltage	M6 CN4004(AKM1349- -TBB)	
No.	Name	(V)	Name	No.
1	GND	0	GND	50
2	AIR SIF	0to5.0	AIR SIF	49
3	GND	0	GND	48
4	(AIR_L)	2Vrms	(AIR_L)	47
5	GND	0	GND	46
6	(AIR_R)	2Vrms	(AIR_R)	45
7	GND	0	GND	44
8	INPUT1_Pr	0.7Vp-p	INPUT1_Pr	43
9	GND	0	GND	42
10	INPUT1_Pb	0.7Vp-p	INPUT1_Pb	41
11	GND	0	GND	40
12	INPUT1_Y	1.0Vp-p	INPUT1_Y	39
13	GND	0	GND	38
14	INPUT2_Pr	0.7Vp-p	INPUT2_Pr	37
15	GND	0	GND	36
16	INPUT2_Pb	0.7Vp-p	INPUT2_Pb	35
17	GND	0	GND	34
18	INPUT2_Y	1.0Vp-p	INPUT2_Y	33
19	GND	0	GND	32
20	INPUT3_SY	1.0Vp-p	INPUT3_SY	31
21	GND	0	GND	30
22	INPUT2_SY	1.0Vp-p	INPUT2_SY	29
23	GND	0	GND	28
24	INPUT1_SC	0.286Vp-p	INPUT1_SC	27
25	GND	0	GND	26
26	INPUT3_SC	0.286Vp-p	INPUT3_SC	25
27	GND	0	GND	24
28	INPUT3_V	1.0Vp-p	INPUT3_V	23
29	GND	0	GND	22
30	INPUT2_SC	0.286Vp-p	INPUT2_SC	21
31	GND	0	GND	20
32	INPUT2_V	1.0Vp-p	INPUT2_V	19
33	GND	0	GND	18
34	GND	0	GND	17
35	INPUT1_SY	1.0Vp-p	INPUT1_SY	16
36	GND	0	GND	15
37	MON_OUT	1.0Vp-p	MON_OUT	14
38	GND	0	GND	13
39	INPUT1_V	1.0Vp-p	INPUT1_V	12
40	GND	0	GND	11
41	SIDE_SC	0.286Vp-p	SIDE_SC	10
42	GND	0	GND	9
43	SIDE_SY	1.0Vp-p	SIDE_SY	8
44	GND	0	GND	7
45	SIDE_V	1.0Vp-p	SIDE_V	6
46	SIDE_S2	0to5.0	SIDE_S2	5
47	SIDE_SPLUG	4.9	SIDE_SPLUG	4
48	V+3.3V_UCOM	3.3	V+3.3V_UCOM	3
49	TEMP2	3.3	TEMP2	2
50	GND	0	GND	1

POWER SUPPLY UNIT **MTB MAIN Ass'y**

		Voltage (V)	M3 CN4105(KM200NA15)	
No.	Name		Name	No.
1		6.5	V+6_5V	1
2		6.5	V+6_5V	2
3		0	GND	3
4		12.0	V+12V	4
5		0	GND	5
6		16.5	V+16_5V	6
7		0	GND	7
8		5.1	V+5_1V	8
9		5.1	V+5_1V	9
10		5.1	V+5_1V	10
11		5.1	V+5_1V	11
12		5.1	V+5_1V	12
13		0	GND	13
14		0	GND	14
15		0	GND	15

POWER SUPPLY UNIT **MTB MAIN Ass'y**

		Voltage (V)	M2 CN4106(KM200NA12)	
No.	Name		Name	No.
1		3.4	M_SW_DET	1
2		3.4	AC_DET	2
3		-	NC(RELAY)	3
4		0	GND	4
5		3.3	V+3_3V_STB	5
6		0	GND	6
7		5.1	V+5_1V_STB	7
8		0	GND	8
9		35.0	V+35V	9
10		0	GND	10
11		0	US_SW	11
12		0	GND	12

FAN **MTB MAIN Ass'y**

		Voltage (V)	M4 CN4103(KM200NA3)	
No.	Name		Name	No.
		0	FAN_VCC	1
		3.4	FAN_NG1	2
		0	GND	3

Speaker **MTB TANSHI Ass'y**

		Voltage (V)	IO8 CN9251(KM200NA8)	
No.	Name		Name	No.
		-	RH+	1
		8.5	RL+	2
		8.5	RH-	3
		8.5	RL-	4
		8.5	LL+	5
		-	LH+	6
		8.5	LL-	7
		8.5	LH-	8

POWER SUPPLY UNIT **MTB TANSHI Ass'y**

		Voltage (V)	IO6 CN8806(B5P-VH)	
No.	Name		Name	No.
		17	V+16_5V	1
		17	V+16_5V	2
		-	GND	3
		-	GND	4
		-	GND	5

LED **MTB MAIN Ass'y**

		Voltage (V)	M11 CN4107(KM200NA6)	
No.	Name		Name	No.
		0	LED-	1
		3.3	LED_ON	2
		3.3	LED_OFF	3
		3.3	LED_TIMER	4
		0	LED-	5
		0	LED-	6

REM/KEY **MTB MAIN Ass'y**

		Voltage (V)	M15 CN4109(KM200NA11)	
No.	Name		Name	No.
		0	GND	1
		3.3	RLS_L/RLS_G	2
		3.3	V+3_3V_UCOM	3
		5.1	V+5_1V_STB	4
		0	REM	5
		0	GND	6
		-	NC	7
		0	GND	8
		3.3	KEY2	9
		3.3	KEY1	10
		3.3	V+3_3V_STB	11

USB **MTB MAIN Ass'y**

		Voltage (V)	M21 CN4108(KM200NA4)	
No.	Name		Name	No.
		5.0	VBUS	1
		0	D-	2
		0	D+	3
		0	GND	4
		0	SHIELD	5

SIDE IO A'ssy **MTB TASHI Ass'y**

S1 CN9351(KM200NA11)		Voltage (V)	IO1 CN8801(KM20NA11L)	
No.	Name		Name	No.
1	SIDE_SPLUG	4.9	SIDE_SPLUG	1
2	GND	-	GND	2
3	SIDE_V	-	SIDE_V	3
4	GND	-	GND	4
5	SIDE_R	-	SIDE_R	5
6	GND	-	GND	6
7	SIDE_L	-	SIDE_L	7
8	GND	-	GND	8
9	SIDE_SC	-	SIDE_SC	9
10	GND	-	GND	10
11	SIDE_SY	-	SIDE_SY	11

SIDE IO A'ssy **MTB TASHI Ass'y**

S2 CN9352(KM200NA5)		Voltage (V)	IO2 CN8802(KM20NA5L)	
No.	Name		Name	No.
1	HP_PLUG	2.9	HP_PLUG	1
2	GND	-	GND	2
3	HP_R	-	HP_R	3
4	GND	-	GND	4
5	HP_L	-	HP_L	5

DTV Ass'y **MTB MAIN Ass'y**

J10(CONNECTOR EDGE 20x2)		Voltage	M24 CN4012(AKM1354- -TFB)	
No.	Name	(V)	Name	No.
1	GND	0	GND	1
2	DT_MON_V	0.4/1.4	DT_MON_V	2
3	GND	0	GND	3
4	GND	0	GND	4
5	GND	0	GND	5
6	GND	0	GND	6
7	GND	0	GND	7
8	GND	0	GND	8
9	GND	0	GND	9
10	GND	0	GND	10
11	GND	0	GND	11
12	GND	0	GND	12
13	GND	0	GND	13
14	GND	0	GND	14
15	NC	0	GND	15
16	GND	0	GND	16
17	GND	0	GND	17
18	NC	0	GND	18
19	GND	0	GND	19
20	GND	0	GND	20
21	GND	0	GND	21
22	GND	0	GND	22
23	GND	0	GND	23
24	AUD_SPDIF	0to3.3	SPDIF_HDDTB	24
25	GND	0	GND	25
26	I2S_SCLK	0to3.3	I2S_BCLK_HDDTB	26
27	GND	0	GND	27
28	I2S_LR	0to3.3	I2S_LRCLK_HDDTB	28
29	GND	0	GND	29
30	I2S_DATA	0to3.3	I2S_SDATA_HDDTB	30
31	GND	0	GND	31
32	GND	0	GND	32
33	GND	0	GND	33
34	GND	0	GND	34
35	GND	0	GND	35
36	GND	0	ANT_POW_DET	36
37	GND	0	N.C	37
38	DTV_RST_N	3.38	RST_DT	38
39	DTB_DET	0	DT_DET	39
40	GND	0	GND	40

DTV Ass'y **MTB MAIN Ass'y**

J6(12 HEADER)		Voltage	M22 CN4014(KM20NA12)	
No.	Name	(V)	Name	No.
1	NC	0	DD_RESET_DA	1
2	GND	0	GND	2
3	NC	5.0	V+5V_AS	3
4	GND	0	GND	4
5	V+12V	12.0	V+12V	5
6	GND	0	GND	6
7	V+6_5V	6.5	V+6_5V	7
8	NC	5.1	V+5_1V_STB	8
9	V+5_1V	5.1	V+5_1V	9
10	V+5_1V	5.1	V+5_1V	10
11	GND	0	GND	11
12	V+3V_D2	3.3	V+3_3V_D2	12

DTV Ass'y **MTB MAIN Ass'y**

J7(CONN SOCKET 25x2)		Voltage	M23 CN4002(AKM1353- -TFB)	
No.	Name	(V)	Name	No.
1	GND	0	GND	1
2	TXD_DT	3.44	TXD_DT	2
3	RXD_DT	3.44	RXD_DT	3
4	GND	0	GND	4
5	GND	0	NC	5
6	GND	0	GND	6
7	DT_CLK	0/3.5	CLK_DT	7
8	GND	0	GND	8
9	Y7_DT	0/3.4	Y7_DT	9
10	Y6_DT	0/3.4	Y6_DT	10
11	GND	0	GND	11
12	Y5_DT	0/3.4	Y5_DT	12
13	Y4_DT	0/3.4	Y4_DT	13
14	GND	0	GND	14
15	Y3_DT	0/3.4	Y3_DT	15
16	Y2_DT	0/3.4	Y2_DT	16
17	GND	0	GND	17
18	Y1_DT	0/3.4	Y1_DT	18
19	Y0_DT	0/3.4	Y0_DT	19
20	GND	0	GND	20
21	CB7_DT	0/3.4	CB7_DT	21
22	CB6_DT	0/3.4	CB6_DT	22
23	GND	0	GND	23
24	CB5_DT	0/3.4	CB5_DT	24
25	CB4_DT	0/3.4	CB4_DT	25
26	GND	0	GND	26
27	CB3_DT	0/3.4	CB3_DT	27
28	CB2_DT	0/3.4	CB2_DT	28
29	GND	0	GND	29
30	CB1_DT	0/3.4	CB1_DT	30
31	CB0_DT	0/3.4	CB0_DT	31
32	GND	0	GND	32
33	CR7_DT	0/3.4	CR7_DT	33
34	CR6_DT	0/3.4	CR6_DT	34
35	GND	0	GND	35
36	CR5_DT	0/3.4	CR5_DT	36
37	CR4_DT	0/3.4	CR4_DT	37
38	GND	0	GND	38
39	CR3_DT	0/3.4	CR3_DT	39
40	CR2_DT	0/3.4	CR2_DT	40
41	GND	0	GND	41
42	CR1_DT	0/3.4	CR1_DT	42
43	CR0_DT	0/3.4	CR0_DT	43
44	GND	0	GND	44
45	DVID_DE	0/3.3	DE_DT	45
46	GND	0	GND	46
47	DVID_VS	0/3.3	VD_DT	47
48	GND	0	GND	48
49	DVID_HS	0/3.3	HD_DT	49
50	GND	0	GND	50

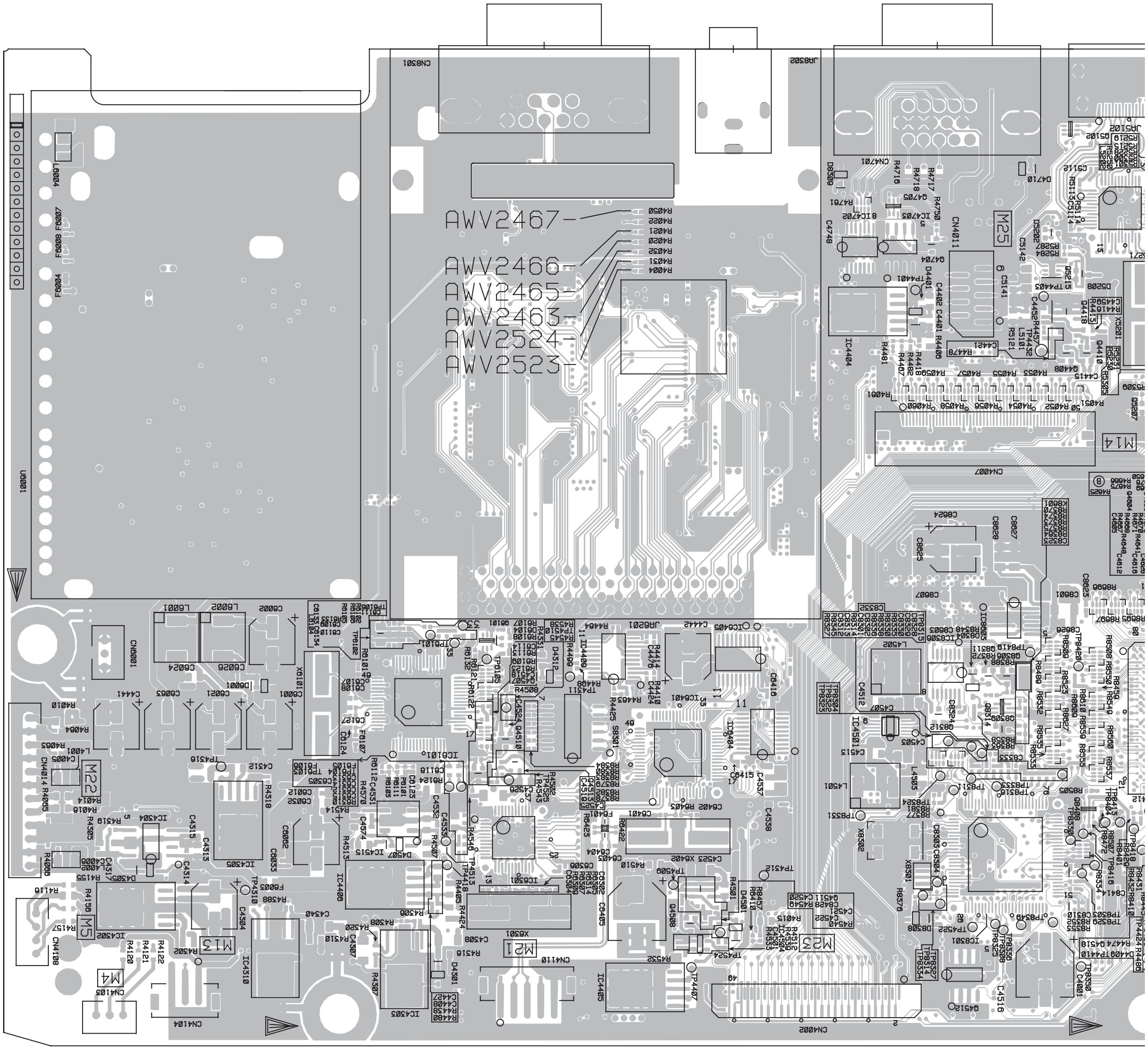
10. PCB CONNECTION DIAGRAM

PCB CONNECTION DIAGRAM of PDP-428XG/DLFT,PDP-428XDA/YP and PDP-428XC/WA5 is the same as PDP-4280XA/WYV5 except for the following:

10.1 MAIN ASSY

MAIN ASSY

SIDE A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M25
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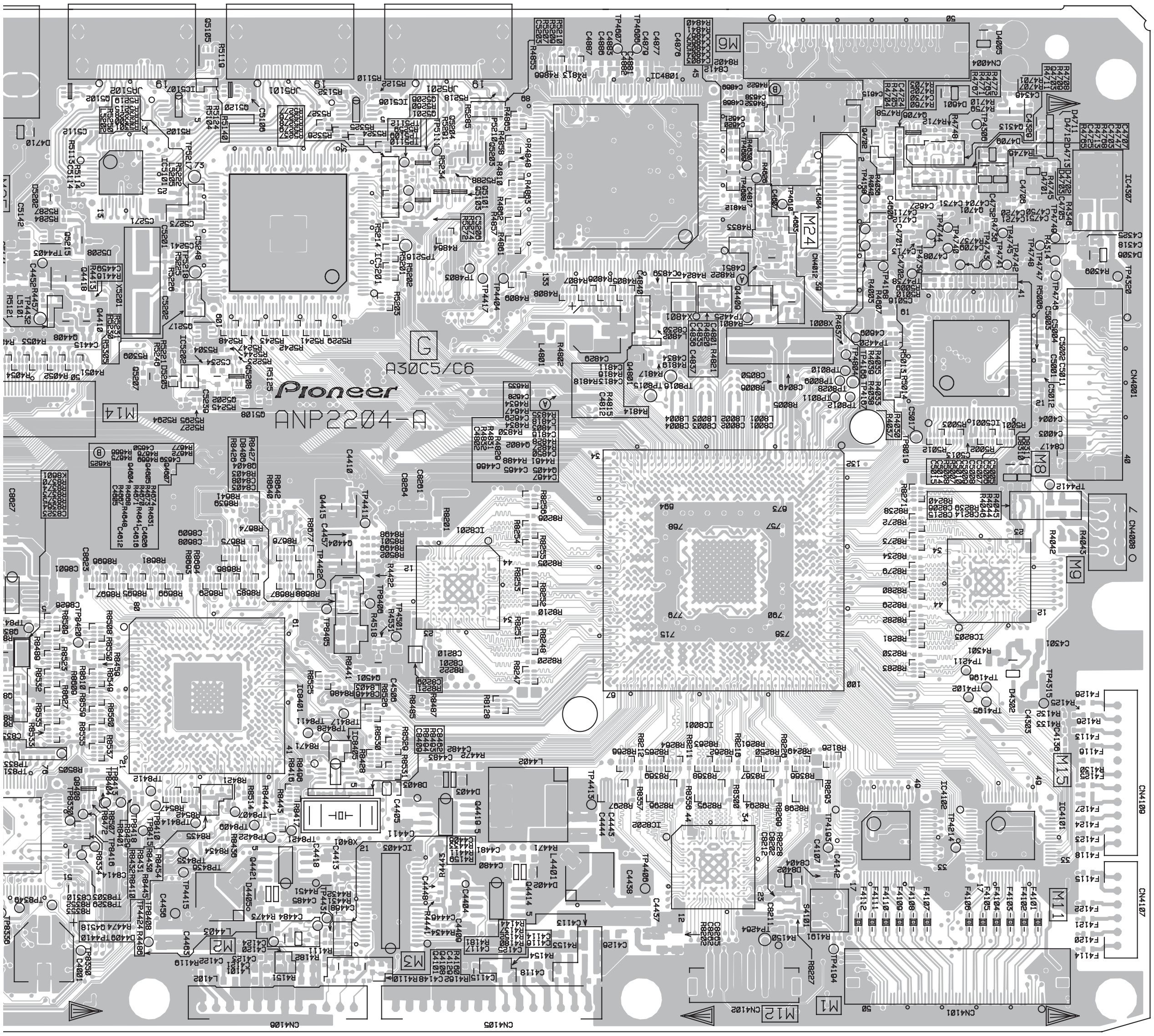
M22
M5
M13
M21
M23
M4

SIDE A


Pioneer
ANP2204-A
A30C5/C6

(ANP2204-A)

A

MAIN ASSY

SIDE B

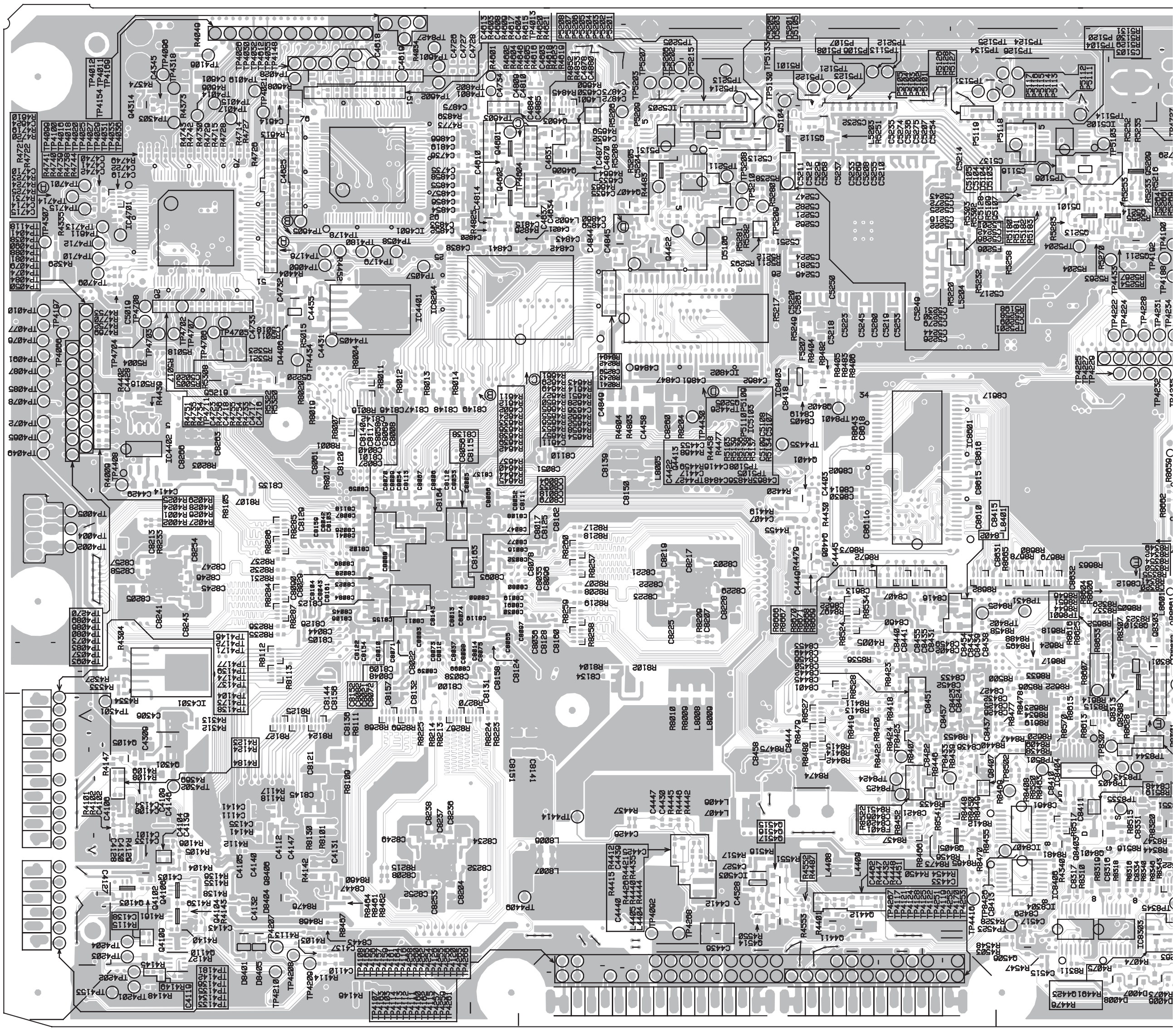
B

C

D

E

F

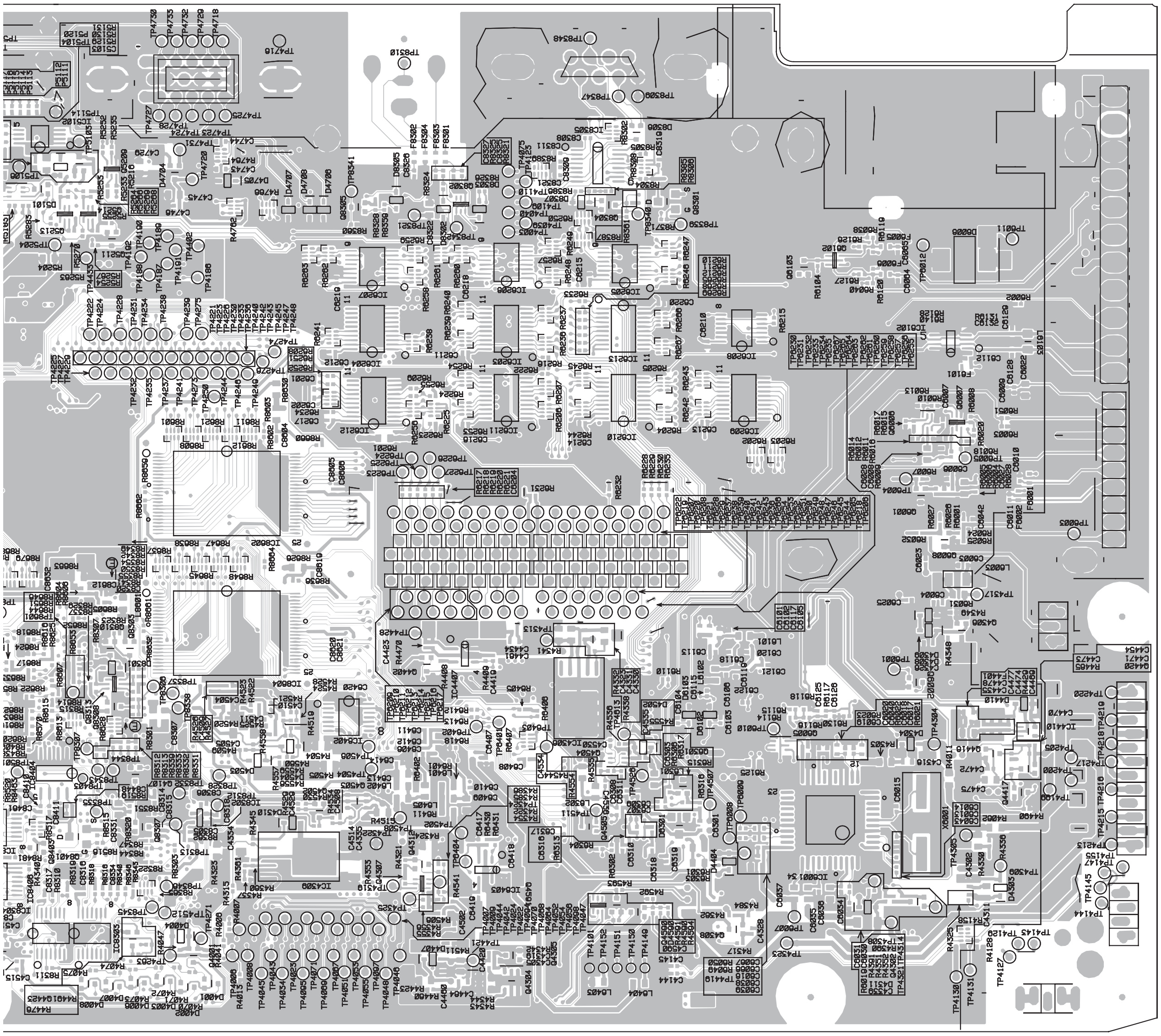


A

SIDE B

B

C



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E

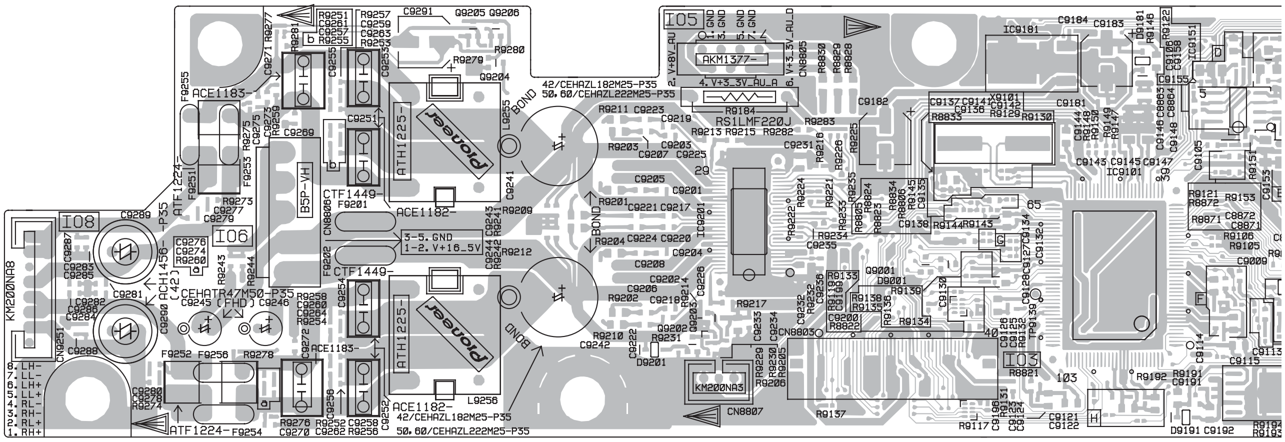
(ANP2204-A)

F

10.2 TANSHI ASSY

TANSHI ASSY

SIDE A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I03
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RS1LMF220J
ATH1225-
ACE1182-
ACE1183-
CTF1449-
B5P-VH
ATF1224-
ACH1456-
CEHATR47M50-P35
KM200NA8
KM200NA5
42/CEHAZL182M25-P35
50,60/CEHAZL222M25-P35
BOND
3-5.GND
1-2.V+16_5V
4.V+3_3V_AU_A
IC9101
IC9181
IC9201
CN8805
CN8806
CN8807
CN8803
8.LH-
7.LL-
6.LH+
5.LL+
4.RL-
3.RH-
2.RL+
1.RH+

A

SIDE A

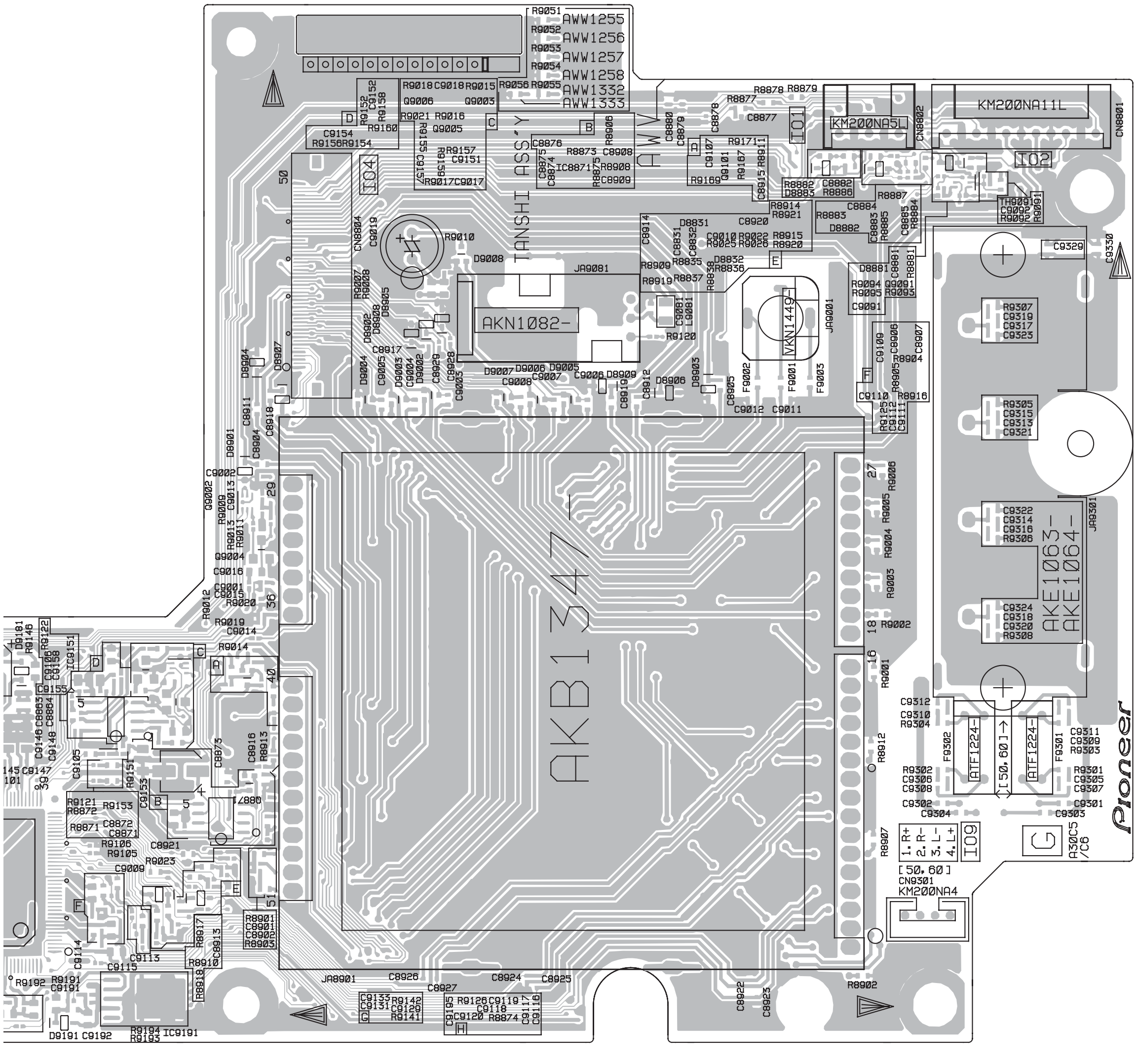
B

C

D

E

F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VKN1449
AKB1347-
AKE1063-
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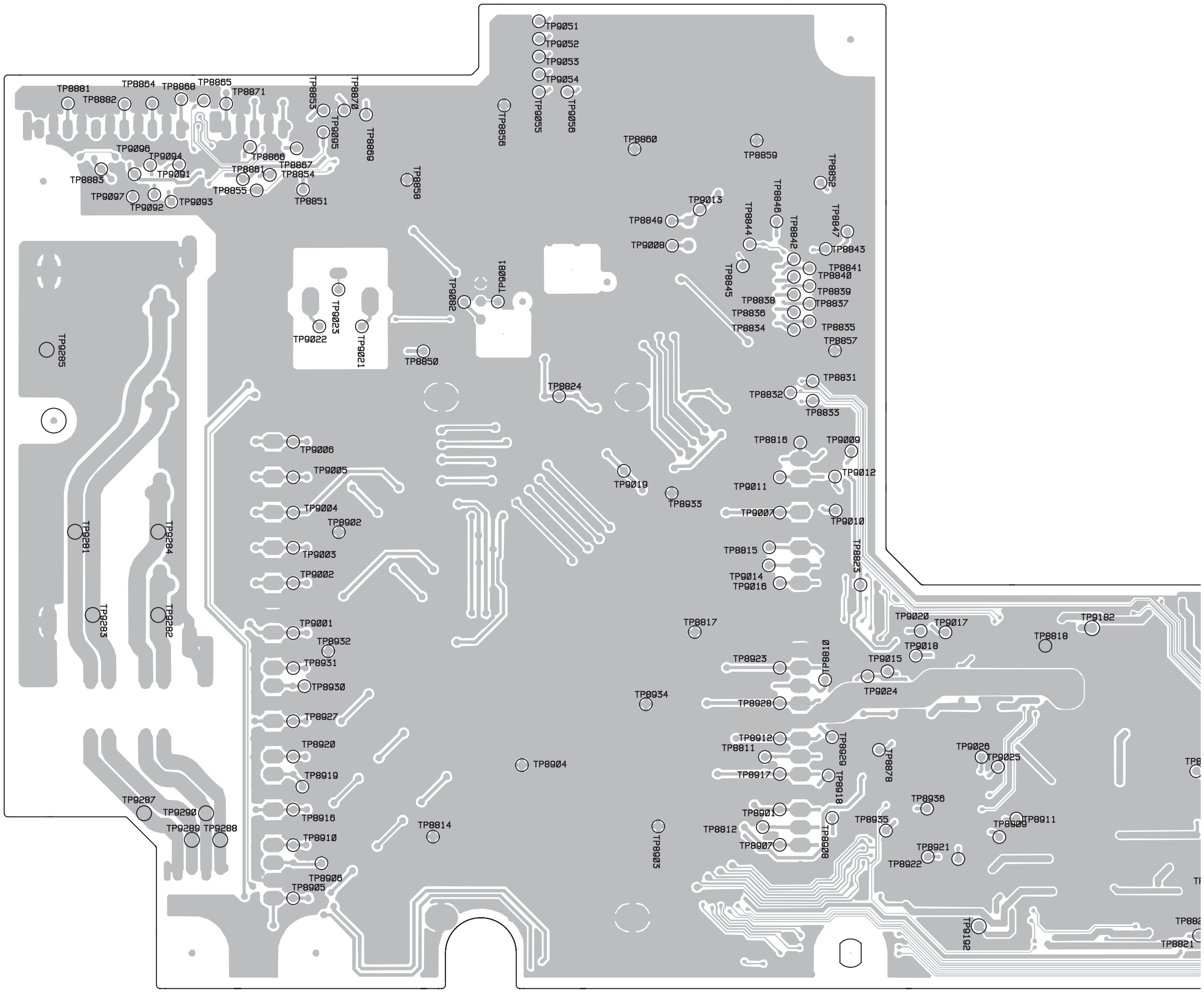
KM200NA4
Pioneer

(ANP2201-A)

TANSHI ASSY

SIDE B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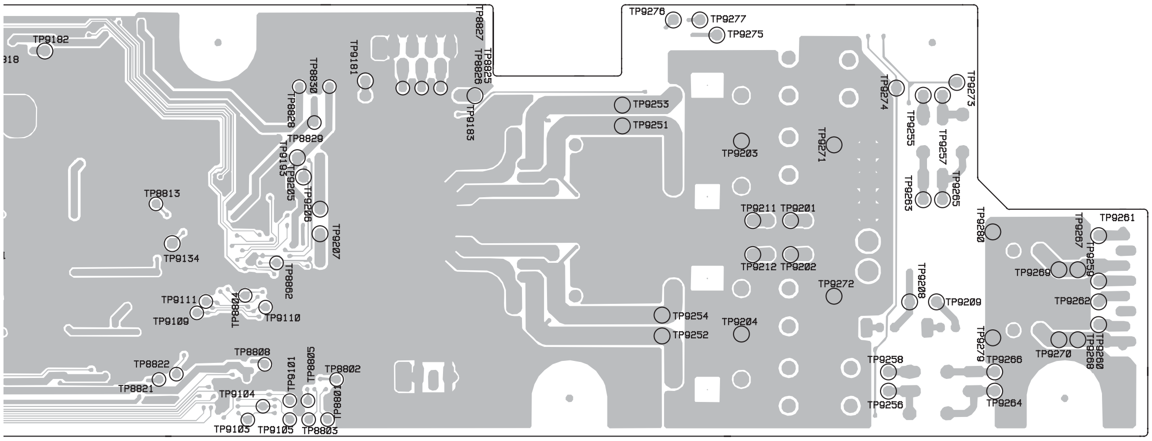
SIDE B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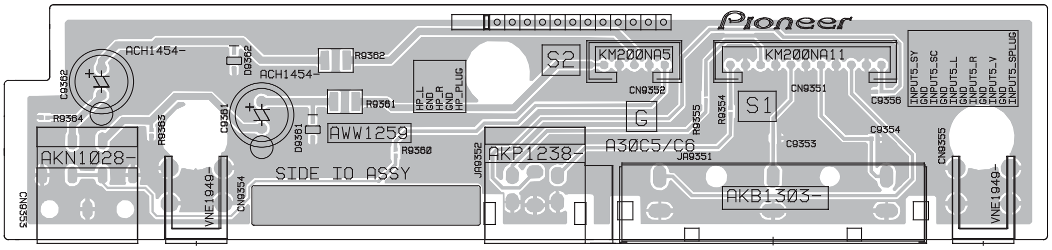
(ANP2201-A)

10.3 SIDE IO ASSY

SIDE IO ASSY

SIDE A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D9362
R9362
C9362
ACH1454-
R9361
HP_L
GND
HP_R
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HP_PLUG
S2
KM200NA5
CN9352
KM200NA11
CN9351
C9356
INPUT5_SY
GND
INPUT5_SC
GND
INPUT5_L
GND
INPUT5_R
GND
INPUT5_V
GND
INPUT5_SPLUG
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R9363
C9361
D9361
AWW1259
R9360
G
R9355
R9354
S1
C9353
C9354
AKN1028-
VNE1949-
CN9354
SIDE IO ASSY
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AKP1238-
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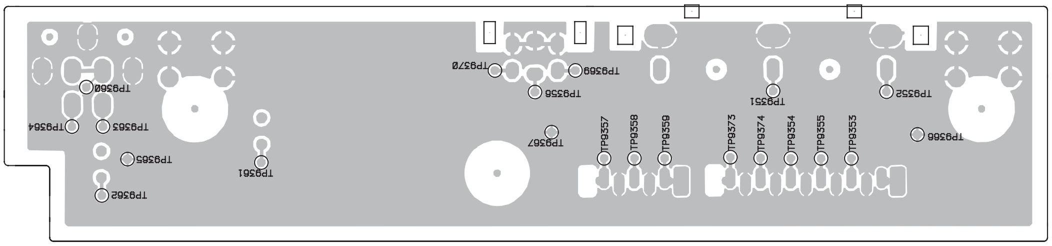
JA9351
AKB1303-
CN9355
VNE1949-
CN9353

SIDE B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TP9373
TP9374
TP9354
TP9355
TP9353
TP9366

(ANP2201-A)

10.4 DTV TUNER BOARD

A

DTV TUNER BOARD

SIDE A

B

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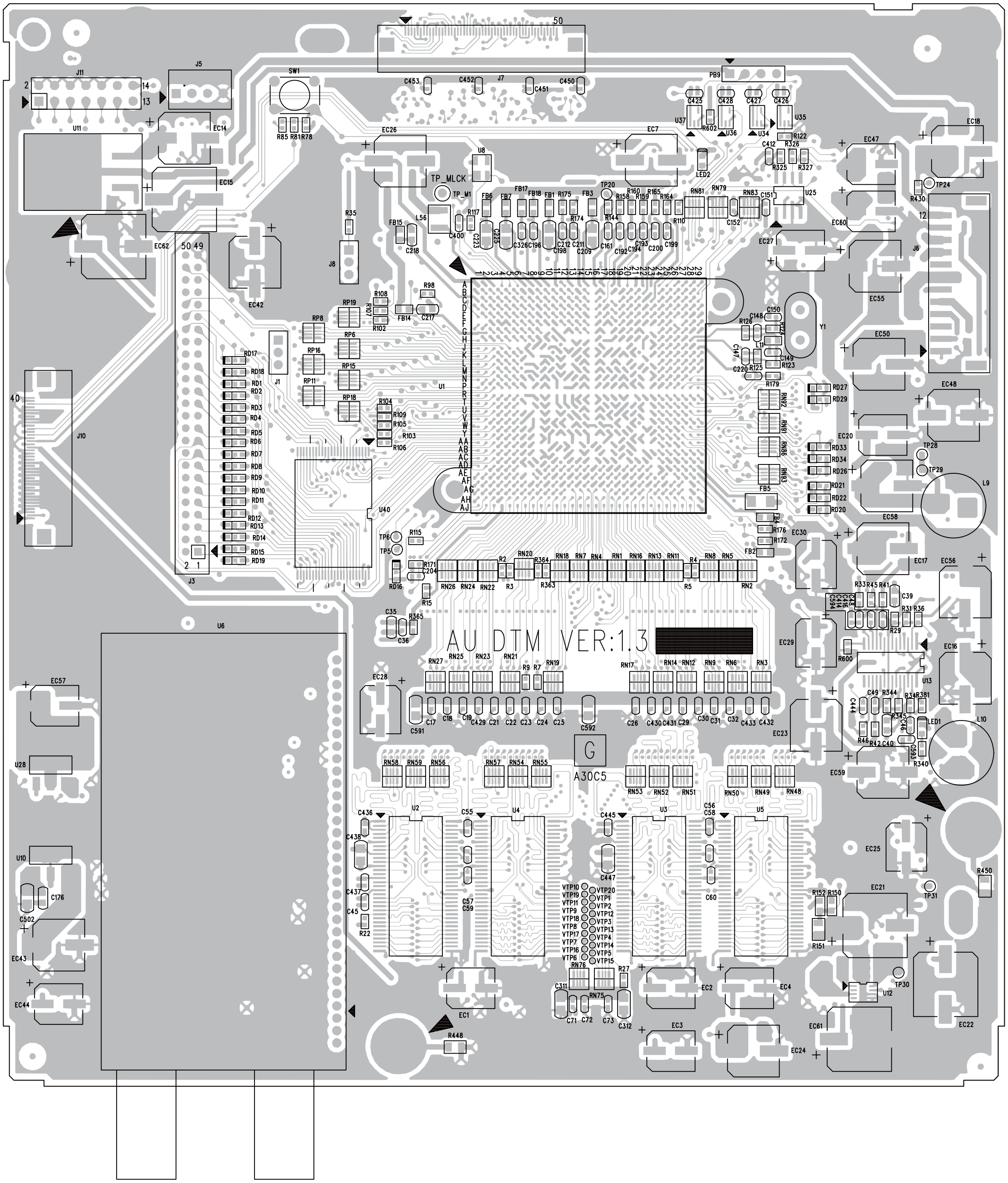
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EC18
EC47
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TP_M1
LED2
U25
U35
U36
U34
U37
EC62
EC42
J8
J6
EC60
EC27
EC55
Y1
EC50
50 49
J10
40
J3
J1
U1
U40
RD17
RD18
RD1
RD2
RD3
RD4
RD5
RD6
RD7
RD8
RD9
RD10
RD11
RD12
RD13
RD14
RD15
RD19
RP8
RP6
RP16
RP15
RP11
RP18
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EC30
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EC56
U6
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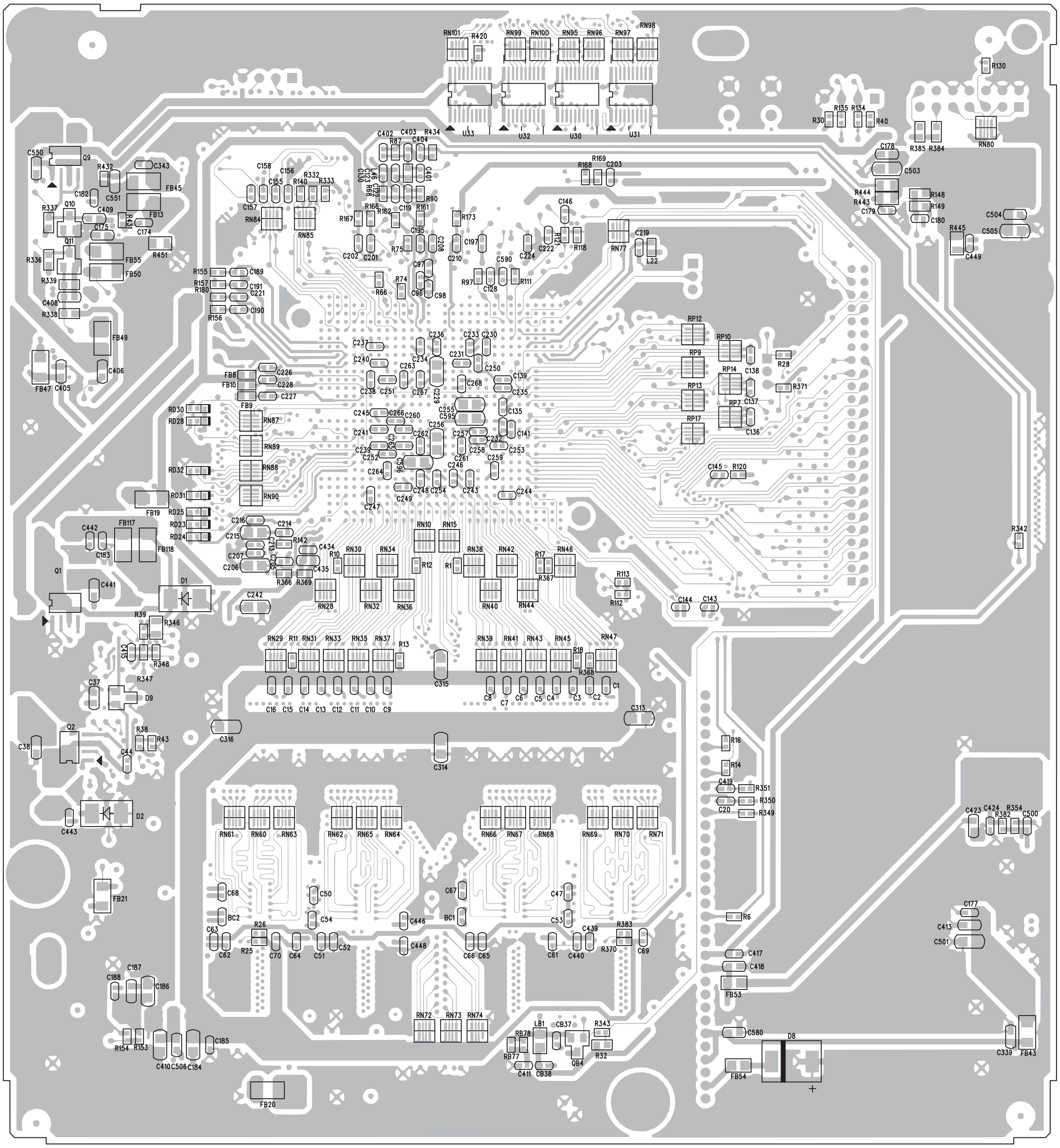
SIDE B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C158
C156
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R333
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R140
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R111
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RN77
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R445
C449
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R432
C343
C551
C182
FB45
R337
Q10
C409
FB13
C175
R433
C174
Q11
R451
R336
FB55
FB50
R339
C408
R338
R155
R157
R180
R156
C189
C191
C221
C190
R66
R74
C97
C96
C98
FB49
FB47
C405
C406
C237
C240
C236
C234
C233
C230
C231
C250
C263
C229
C238
C251
C267
C268
C139
C235
RP12
RP10
RP9
RP14
R28
C138
RP13
R371
RP7
C137
RP17
C136
FB8
FB10
FB9
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RD30
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RN89
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C247
C145
R120
RD32
RD31
FB19
RD25
RD23
RD24
C442
FB117
C183
FB118
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C434
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RN30
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RN38
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RN46
R367
R113
R112
C144
C143
R342
Q1
C441
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C242
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RN32
RN36
RN40
RN44
R39
R346
C415
R348
RN29
R11
RN31
RN33
RN35
RN37
R13
RN39
RN41
RN43
RN45
RN47
R18
R368
C315
C37
R347
D9
C16
C15
C14
C13
C12
C11
C10
C9
C8
C7
C6
C5
C4
C3
C2
C1
C313
C316
Q2
C38
R38
R43
C44
C314
R16
R14
C419
R351
R350
C20
R349
C423
C424
R354
R382
C500
D2
C443
RN61
RN60
RN63
RN62
RN65
RN64
RN66
RN67
RN68
RN69
RN70
RN71
FB21
C68
C50
C67
C47
BC2
C54
C446
BC1
C53
C63
R26
C439
R383
R6
C177
C413
C501
C62
R25
C70
C64
C51
C52
C448
C66
C65
C61
C440
R370
C69
C417
C418
FB53
C187
C188
C186
RN72
RN73
RN74
RB78
LB1
CB37
R343
R32
RB77
QB4
C411
CB38
C580
D8
C339
FB43
R154
R153
C410
C506
C184
C185
FB54
+
FB20

11. PCB PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 x 10^1 → 561 .... RD1/4PU$\boxed{5}\boxed{6}\boxed{1}$J
47k Ω → 47 x 10^3 → 473 .... RD1/4PU$\boxed{4}\boxed{7}\boxed{3}$J
0.5 Ω → R50 .... RN2H$\boxed{R}\boxed{5}\boxed{0}$K
1 Ω → 1R0 .... RS1P$\boxed{1}\boxed{R}\boxed{0}$K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 x 10^1 → 5621 .... RN1/4PC$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

Mark	No. Description	Part No.
	LIST OF ASSEMBLIES	
⚠	1..MAIN ASSY (428XG type)	AWV2465
⚠	1..MAIN ASSY (428XDA type)	AWV2465
⚠	1..MAIN ASSY (428XC type)	AWV2466

Mark	No. Description	Part No.
NSP	1..FUKUGO ASSY (428XG type)	AWV2490
NSP	1..FUKUGO ASSY (428XDA type)	AWV2488
NSP	1..FUKUGO ASSY (428XC type)	AWV2490
	2..TANSHI ASSY(428XG type)	AWW1257
	2..TANSHI ASSY(428XDA type)	AWW1255
	2..TANSHI ASSY(428XC type)	AWW1257
	2..SIDE IO ASSY	AWW1259
	2..42/60 LED ASSY	AWW1276
	2..42 RLS&IR ASSY	AWW1277
	2..SIDE KEY ASSY	AWW1286

CONTRAST OF PCB ASSEMBLIES

MAIN ASSY

AWV2465 and AWV2466 are constructed the same except for the following:

Mark	Symbol and Description	AWV2465	AWV2466	Remarks
	R4020	RS1/16SS0R0J	Not used	
	R4021	Not used	RS1/16SS0R0J	
	R8313	RS1/16SS103J	Not used	
	R8330	Not used	RS1/16SS103J	

TANSHI ASSY

AWW1257 and AWW1255 are constructed the same except for the following:

Mark	Symbol and Description	AWW1257	AWW1255	Remarks
	L9081 Chip Coil	Not used	BTH1103	
	JA9081 Vert Opt.link Out	Not used	AKN1082	
	R8889, R9051	Not used	RS1/16S0R0J	
	R8890, R9053	RS1/16S0R0J	Not used	
	C9081	Not used	CKSRYB105K10	

PCB PARTS LIST

Mark	No.	Description	Part No.

Unit Name: MAIN ASSY (428XG type)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 8204		AGC1051
	IC 8301		AGC1037
	IC 8602		AGC1042

MISCELLANEOUS

Mark	No.	Description	Part No.
	3101	GROUND PLATE	ANG3118

RESISTORS

Mark	No.	Description	Part No.
	All Resistors		RS1/16SS###J

Block Name: BOARD IF BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q 4001		2SA1602A
	D 4001,4003,4008		1SS301
	D 4004		1SS352
	D 4005		UDZS4R7(B)

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 4001,4002	CHIP COIL	BTH1118
	CN 4001	40P CONNECTER	AKM1348
	CN 4002	50P CONNECTER PBF	AKM1353
	CN 4004,4007	50P CONNECTER	AKM1349
	CN 4008	CONNECTOR 7P	AKP1320
	CN 4012	40P CONNECTER PBF	AKM1354
	CN 4014	PLUG(12P)	KM200NA12

RESISTORS

Mark	No.	Description	Part No.
	R 4014,4015,4042,4044		RS1/10S0R0J
	R 4045		RS1/10S0R0J
	R 4051-4061		RAB4CQ220J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 4001		ACH1421

Block Name: BOARD IF 1B OCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 4101		BU8254KVT
	Q 4101,4105,4107,4108		RT1N241M
	Q 4103		RN2902
	Q 4104		RN1902
	Q 4106		HN1A01FU

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 4101,4102	CHIP BEEDS FILTER	BTX1039
⚠	F 4113-4116,4118	INDUCTOR	CTF1557
⚠	F 4120-4124,4126,4127	INDUCTOR	CTF1557
	CN 4101	50P CONNECTER	AKM1349
	CN 4103	PLUG(3P)	KM200NA3
	CN 4105	PLUG(15P)	KM200NA15
	CN 4106	PLUG(12P)	KM200NA12
	CN 4107	PLUG(6P)	KM200NA6
	CN 4109	PLUG(11P)	KM200NA11
	CN 4110	CONNECTOR	AKM1276

RESISTORS

Mark	No.	Description	Part No.
	R 4120-4122,4130,4132		RS1/16S0R0J
	R 4125,4126		RS1/16S102J
	R 4133		RS1/16S0R0J
	R 4137,4141-4145		RS1/10S0R0J
	R 4150-4154,4180-4182		RS1/10S0R0J
	R 4158		RAB4CQ101J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 4101,4102,4104,4108		CKSSYB104K10
	C 4109,4127		CKSSYB104K10
	C 4121,4131,4132,4135		DCH1201
	C 4122,4129		CKSRYB102K50
	C 4133,4134,4136,4139		CCSSCH221J50
	C 4146		CCSSCH221J50

Block Name: POWER 0 BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 4301,4309,4310		PQ200WNA1ZPH
	IC 4305,4307		NJM2846DL3-05
	Q 4302,4305		RT1N241M
	Q 4304		RTQ040P02
	Q 4306		2SC4081
	Q 4307		HN1C01FU
	Q 4312		2SA1602A
	D 4302,4304,4306,4310		1SS352
	D 4308		UDZS24(B)
	D 4309		UDZS8R2(B)
	D 4311		1SS352

RESISTORS

Mark	No.	Description	Part No.
	R 4301,4303,4309,4310		RS1/10S0R0J
	R 4322		RS1/16SS5602D
	R 4323,4324,4369,4373		RS1/10S0R0J
	R 4327,4391		RS1/16SS4701F
	R 4333		RS1/16SS1501F
	R 4337,4352		RS1/16SS1001F
	R 4351		RS1/16SS1801F
	R 4353		RS1/16SS6802D
	R 4354,4355		RS1/16SS1203D
	R 4360,4361		RS1/16SS1202F
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 4301,4303,4334,4335		DCH1165
	C 4312,4318		DCH1201
	C 4316,4325		CKSRYB105K10
	C 4319		CKSSYB104K10
	C 4326		CKSRYF104Z50
	C 4339,4340		DCH1165

Block Name: POWER 0 BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 4401		NJM2846DL3-33
	IC 4403		BD8602FV
	IC 4404		NJM2846DL3-18
	Q 4401,4405,4406,4408		RT1N241M
	Q 4404,4415		RTQ040P02
	Q 4407		2SC4081
	Q 4409		UPA1917TE
	Q 4410,4412,4413		RT1P241M
	Q 4411		RT1N241M
	Q 4414,4419,4421		SP8M4
	Q 4418		RTQ045N03

Mark	No.	Description	Part No.
	Q 4422		MCH3406
	D 4401,4406,4409		1SS352
	D 4402,4403,4405		RB060M-30

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 4401,4403	INDUCTOR	ATH1235
	L 4402	INDUCTOR	BTH1113
	L 4404-4409	CHIP BEEDS FILTER	BTX1039

RESISTORS

Mark	No.	Description	Part No.
	R 4404,4406		RS1/10S0R0J
	R 4412		RS1/16SS1203D
	R 4415,4433,4435,4437		RS1/16SS3302D
	R 4431		RS1/16SS6802D
	R 4440		RS1/16SS3902D
	R 4441		RS1/16SS2702D
	R 4442,4444		RS1/16SS3302D
	R 4447		RS1/16SS5602D
	R 4450		RS1/16SS7502D
	R 4454		RS1/16SS1003D
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 4401,4455		CKSRYB105K10
	C 4402,4431		DCH1201
	C 4403,4415,4421,4422		CCSSCH101J50
	C 4404,4405,4409		DCH1165
	C 4406,4407,4410,4417		CKSSYB104K10
	C 4411-4413,4418		DCH1165
	C 4416,4425,4432		CKSSYB102K50
	C 4426		CCSSCH181J50
	C 4430		CKSSYB562K25
	C 4433		CCSSCH390J50
	C 4436		CCG1230
	C 4437,4438,4443,4444		BCG1059
	C 4439		CCSRCH470J50
	C 4445,4467		CCSSCH101J50
	C 4446,4448,4462		CKSRYB682K50
	C 4449,4457,4465,4466		CKSSYB104K10
	C 4452,4459		CKSRYB104K16
	C 4453		CKSRYB474K10
	C 4456,4463		BCG1059
	C 4468		CKSSYB104K10

Block Name: POWER 2 BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 4501		LTC3407EMSE-2
	IC 4503		PST3628UR
	Q 4501,4506,4515-4517		RT1N241M
	Q 4505		MCH3406
	Q 4508		2SC4081
	Q 4511		RTQ040P02
	Q 4512		RSS090P03
	Q 4514		RT1P241M
	Q 4590		RT1N241M
	Q 4591		RN1902
	D 4503,4504		RB551V-30
	D 4590		1SS301

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 4501,4502	INDUCTOR	BTH1110
	L 4503	CHIP BEEDS FILTER	BTX1039

RESISTORS

Mark	No.	Description	Part No.
	R 4502,4504,4505,4510		RS1/10S0R0J
	R 4515		RS1/10S0R0J
	R 4516		RS1/16SS2702D
	R 4517		RS1/16SS5602D
	R 4521		RS1/16SS2003D
	R 4522		RS1/16SS6202D
	R 4526		RS1/16SS1503D
	R 4527		RS1/16SS1003D
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 4503,4507		BCG1059
	C 4504,4511		CKSRYB224K16
	C 4506		ACG1128
	C 4509,4510		CCSSCH470J50
	C 4512,4513		DCH1201
	C 4515,4516,4520,4521		CKSSYB104K10
	C 4522,4530,4535		CCSSCH101J50
	C 4527,4528,4534		CKSSYB103K16
	C 4536		CKSSYB104K10

Block Name: AV SW BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 4601		R2S11006FT
	Q 4601,4602		HN1C01FU
	Q 4603,4606		2SC4081
	D 4601		UDZS6R8(B)

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 4601,4602	INDUCTOR	LCYA220J2520

RESISTORS

Mark	No.	Description	Part No.
	R 4606,4607		RS1/10S0R0J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 4601,4606,4636,4637		DCH1201
	C 4602-4605,4607,4610		CKSSYB104K10
	C 4608,4613,4615		CKSRYB105K10
	C 4609		DCH1165
	C 4611		CKSSYB104K10
	C 4618-4621,4627-4629		CKSRYB105K10
	C 4630,4633		CCSSCH7R0D50
	C 4631,4634		CCSSCH390J50
	C 4632,4635		CCSSCH470J50

Block Name: RGB SW BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 4701		R2S11001FT
	IC 4702		TC74VHC08FTS1
	IC 4703		BR24L01AFJ-W
	Q 4701		2SA1602A
	Q 4704		RT1N241M
	D 4704		1SS301
	D 4709		UDZS6R8(B)

MISCELLANEOUS

Mark	No.	Description	Part No.
	CN 4701	15P D-SUB SOCKET	AKP1214

RESISTORS

Mark	No.	Description	Part No.
	R 4716-4718		RS1/16S75R0F
	R 4748		RS1/10S0R0J
	R 4749,4761,4766		RAB4CQ101J

Mark	No.	Description	Part No.
R	4762		RAB4CQ473J
R	4764		RAB4CQ222J
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	4701-4703,4709,4729		CKSSYB104K10
C	4704,4708,4745		DCH1201
C	4710-4723		CKSSYB103K16
C	4726-4728,4740-4742		CKSRYB105K10
C	4732,4733		CCSRCH680J50
C	4748		CKSSYB104K10
C	4750-4752		CCSSCH221J50

Block Name: VDEC BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	4801		CM0048BF
IC	4802		HY57V161610FTP-7
Q	4801,4802		2SA1602A

MISCELLANEOUS

Mark	No.	Description	Part No.
L	4801	CHIP BEEDS FILTER	BTX1042
L	4802,4803	COIL	LCYC6R8K2125
X	4801	CRYSTAL(28.63636MHZ)	ASS1214

RESISTORS

Mark	No.	Description	Part No.
R	4801-4804		RS1/10S0R0J
R	4805-4809,4857		RAB4CQ470J
R	4810,4813,4845,4858		RAB4CQ101J
R	4819,4830		RS1/16SS1500F
R	4820,4831		RS1/16SS2201F
R	4821,4832		RS1/16SS1101F
R	4822,4826,4833		RS1/16SS2701F
R	4825		RS1/16SS1001F
R	4861-4863		RAB4CQ470J
R	4864-4866		RAB4CQ101J
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	4801,4802,4804,4805		CKSRYB105K10
C	4803,4811,4817		CKSSYB103K16
C	4809,4810		CKSRYB105K10
C	4812,4816		CCSSCH330J50
C	4813,4818		CCSSCH680J50
C	4814,4815		CKSSYB102K50
C	4819,4834-4848		CKSSYB104K10
C	4820,4821		CCSRCH300J50
C	4829		CEHVKW101M6R3
C	4849		DCH1201
C	4850-4863,4865-4873		CKSSYB104K10
C	4875-4887		CKSSYB104K10

Block Name: ADC BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	5001		AD9985KSTZ-110

RESISTORS

Mark	No.	Description	Part No.
R	5001-5003,5012-5014		RAB4CQ470J
R	5004,5005,5011,5015		RS1/10S0R0J
R	5006		RS1/16SS2701F
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	5001		CKSSYB823K10
C	5002		CKSSYB822K16
C	5003-5005,5007,5009		CKSSYB104K10
C	5006,5008,5010		CKSSYB473K16
C	5011-5017		CKSSYB104K10
C	5018,5020		DCH1201

Block Name: HDMI SW BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	5101		CXB1442R
IC	5102,5103		BR24L02FV-W
IC	5106,5107		PCA9517DP
Q	5112,5120		RN1902
D	5101		1SS301
D	5104,5106		UDZS6R8(B)

MISCELLANEOUS

Mark	No.	Description	Part No.
L	5101	CHIP SOLID INDUCTOR	QTL1013
JA	5101,5102	HDMI CONNECTOR	AKP1318

RESISTORS

Mark	No.	Description	Part No.
R	5114		RS1/16SS4701F
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	5103,5105,5106,5108		CKSSYB104K10
C	5104,5107,5141		DCH1201
C	5109,5112,5114,5116		CKSSYB104K10
C	5128,5137		CKSSYB104K10
C	5142		BCG1059

Block Name: HDMI BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	5201		SII9125CTU
IC	5203		BR24L02FV-W
Q	5201		SSM6N17FU
Q	5202		2SA1602A
Q	5205,5209		RN1902
Q	5207		2SC4081
Q	5208		HN1C01FU
Q	5211		RT1N241M
D	5203		UDZS6R8(B)
D	5205		RB520S-30

MISCELLANEOUS

Mark	No.	Description	Part No.
L	5201-5205	CHIP SOLID INDUCTOR	QTL1013
F	5206,5207	CHIP FERRITE BEADS	ATF1211
JA	5201	HDMI CONNECTOR	AKP1318
X	5201	CRYSTAL RESONATOR	ASS1200

RESISTORS

Mark	No.	Description	Part No.
R	5201-5203,5214,5229		RAB4CQ680J
R	5204,5216,5258		RS1/10S0R0J
R	5237		RAB4CQ100J
R	5241-5243,5247,5248		RAB4CQ680J
R	5324-5327		ACN1275
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	5201,5202		CCSSCH8R0D50
C	5203,5204,5222,5231		CKSSYB104K10
C	5205,5213,5214,5217		DCH1201
C	5207-5212,5216		CKSSYB102K50
C	5218		DCH1201

Mark	No.	Description	Part No.
C	5219-5221,5223-5226		CKSSYB102K50
C	5229,5233,5235-5237		CKSSYB102K50
C	5230		CKSSYB103K16
C	5232,5234,5253-5255		CKSSYB104K10
C	5241-5251		CKSSYB102K50
C	5258,5261,5262,5268		CKSSYB104K10
C	5269,5271-5275		CKSSYB104K10
C	5279-5282,5286		CKSSYB104K10

Block Name: TUNER BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
Q	6001,6008		2SA1602A
Q	6006		HN1B04FU
Q	6007		HN1C01FU

MISCELLANEOUS

Mark	No.	Description	Part No.
L	6001,6002	INDUCTOR	BTH1110
L	6003	CHIP COIL	BTH1119
L	6004	CHIP COIL	BTH1121
F	6001,6002,6005	FERRITE CORE	VTF1080
F	6004	FERRITE CORE	VTF1091
F	6006	FERRITE CORE	VTF1080
F	6007,6008	CHIP FERRITE BEADS	ATX1067
⚠ U	6001	FRONTEND	AXF1180

RESISTORS

Mark	No.	Description	Part No.
R	6031		RS1/10S0R0J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	6003,6004		CKSRYF104Z50
C	6008		CKSRYB682K50
C	6009		CKSSYB103K16
C	6010,6011,6064,6065		CCSSCH100D50
C	6022,6024,6026-6028		DCH1201
C	6023,6025		CKSSYB104K10

Block Name: VBI SLICER BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	6301		TC90173FG
D	6301		HSM107S-E

MISCELLANEOUS

Mark	No.	Description	Part No.
L	6301,6302	CHIP BEEDS FILTER	BTX1042

RESISTORS

Mark	No.	Description	Part No.
R	6303		RS1/10S0R0J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	6301		CKSRYB474K10
C	6303		CCSSCH680J50
C	6305		DCH1201
C	6306-6319		CKSSYB104K10

Block Name: USB BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	6401		M66596FP
IC	6402		TC74LCX32FTS1
IC	6403		R5523N001B
IC	6404,6405		TC74LCX245FTS1

MISCELLANEOUS

Mark	No.	Description	Part No.
L	6401-6405	CHIP BEEDS FILTER	BTX1042
X	6402	CRYSTAL RESONATOR	BSS1131

RESISTORS

Mark	No.	Description	Part No.
R	6401,6402,6411		RS1/10S0R0J
R	6407		RAB4CQ103J
R	6418		RS1/16SS5601F
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	6401,6402		CCSSCH180J50
C	6405		ACH1421
C	6406-6408,6410-6412		CKSSYB104K10
C	6409,6413		DCH1201
C	6414-6416,6418-6420		CKSSYB104K10

Block Name: ARIA 0 BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	8001		PD6568A

MISCELLANEOUS

Mark	No.	Description	Part No.
L	8001-8004	INDUCTOR	LCYC1R0K1608
L	8005-8007	CHIP BEEDS FILTER	BTX1042
L	8008,8009	CHIP BEEDS FILTER	BTX1039
X	8001	CRYSTAL(27MHZ)	ASS1213

RESISTORS

Mark	No.	Description	Part No.
R	8004,8007		RAB4CQ103J
R	8011-8014		RS1/16S0R0J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	8001-8004,8066,8067		CKSRYB105K10
C	8049		CCSSCH100D50
C	8050		CCSSCH120J50
C	8069-8075,8077,8079		CKSRYB105K10
C	8078,8096-8100		CKSSYB104K10
C	8080,8082-8084		CKSRYB105K10
C	8087-8091,8093,8094		CKSRYB105K10
C	8101,8102,8106,8108		CKSRYB105K10
C	8103-8105,8109,8110		CKSSYB104K10
C	8111,8118,8124		CKSRYB105K10
C	8112,8113,8115,8117		CKSSYB104K10
C	8119,8120		CKSSYB104K10
C	8138,8140,8142		DCH1201
C	8164		CCG1232

Block Name: ARIA 1 BLOCK(XG)

RESISTORS

Mark	No.	Description	Part No.
R	8128		RAB4CQ470J
R	8130		RS1/10S0R0J
	Other Resistors		RS1/16SS####F

CAPACITORS

Mark	No.	Description	Part No.
C	8125,8126,8128,8129		CKSSYB104K10
C	8145		DCH1201
C	8154		CKSRYB105K10
C	8155,8156,8159-8162		CKSSYB104K10

Block Name: ARIA MEM. BLOCK(XG)

SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	8201,8203		EDD1232ABBH-5C-E

RESISTORS

Mark	No. Description	Part No.
	R 8201,8203,8204	RS1/10S0R0J
	R 8247,8248,8251-8260	RAB4CQ470J
	R 8271-8273,8279-8287	RAB4CQ470J
	Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No. Description	Part No.
	C 8203,8205,8260	DCH1201
	C 8209,8210,8214,8215	CKSSYB104K10
	C 8217,8219,8221-8223	CKSRYB105K10
	C 8225,8228,8229,8241	CKSRYB105K10
	C 8230	CKSSYB104K10
	C 8243,8245-8247,8254	CKSRYB105K10
	C 8257,8258	CKSRYB105K10
	C 8259	CKSSYB103K16

Block Name: IF UCOM BLOCK(XG)

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC 8302	PST3628UR
	IC 8303,8304	TC74VHC126FTS1
	IC 8305	SP3232ECY
	Q 8302	RN1902
	Q 8305	2SA1602A
	D 8302,8303,8305	1SS352
	D 8306	1SS301

MISCELLANEOUS

Mark	No. Description	Part No.
⚠	F 8301-8304INDUCTOR	CTF1557
	JA 8302 MINI JACK(4P)	AKN1073
	X 8301 CERAMIC OSCILLATOR	CSS1616
	X 8302 CRYSTAL OSCILLATOR	ASS1212
	CN 8301 9P D-SUB SOCKET	AKP1213

RESISTORS

Mark	No. Description	Part No.
	R 8301	RS1/10S0R0J
	R 8302,8345	RAB4CQ101J
	R 8327,8334	RAB4CQ103J
	R 8365	RAB4CQ473J
	Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No. Description	Part No.
	C 8301,8302,8325-8327	CKSSYB471K50
	C 8303,8304	CCSSCH100D50
	C 8305	CKSSYB102K50
	C 8306	CKSSYB472K16
	C 8307,8322	DCH1201
	C 8308-8311,8314-8319	CKSSYB104K10
	C 8321,8332	CKSSYB104K10
	C 8333	CKSSYB103K16

Block Name: EMMA2 BLOCK(XG)

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC 8401	UPD61123F1-100KA3A
	IC 8404	BR24L64F-W
	IC 8405	TC7WHU04FU
	IC 8406	TC74VHC08FTS1
	IC 8407	TC74HC4066AFT
	Q 8401	2SJ461A
	Q 8402,8403	RT1N241M
	Q 8405,8408	SSM6N17FU
	Q 8407	2SA1602A

MISCELLANEOUS

Mark	No. Description	Part No.
	L 8401-8403CHIP BEEDS FILTER	BTX1042
	F 8401 FERRITE CORE	VTF1091
	X 8401 CRYSTAL RESONATOR	ASS1220

RESISTORS

Mark	No. Description	Part No.
	R 8403	RS1/10S0R0J
	R 8416,8437,8541,8542	RAB4CQ103J
	R 8430-8432,8440	RS1/16SS2000D
	R 8433	RAB4CQ221J
	R 8443,8479,8480,8547	RAB4CQ101J
	R 8446,8454	RS1/16SS6200D
	R 8451	RS1/16SS3300D
	R 8453	RS1/16SS2200D
	R 8489	RAB4CQ473J
	R 8508,8509,8523-8535	RAB4CQ470J
	R 8517	RAB4CQ222J
	R 8537	RAB4CQ470J
	R 8549,8550,8555,8559	RAB4CQ101J
	R 8560	RAB4CQ101J
	Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No. Description	Part No.
	C 8401,8423,8425,8427	CKSRYB105K10
	C 8402,8403,8415	DCH1201
	C 8406	CKSSYB102K50
	C 8409,8462	CCSSCH180J50
	C 8410,8411	CCSSCH470J50
	C 8413,8420-8422,8436	CKSSYB104K10
	C 8417	CKSSYB103K16
	C 8438,8440,8442,8446	CKSSYB104K10
	C 8448,8459-8461	CKSSYB104K10
	C 8452-8457	CKSRYB105K10

Block Name: EMMA2 MEM. BLOCK(XG)

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC 8601	K4H511638D-UCB3
	IC 8603	LP2995M

MISCELLANEOUS

Mark	No. Description	Part No.
	L 8601 CHIP BEEDS FILTER	BTX1042

RESISTORS

Mark	No. Description	Part No.
	R 8601,8608,8611,8612	RAB4CQ101J
	R 8603,8630,8663	RS1/10S0R0J
	R 8621,8670-8673,8681	RAB4CQ101J
	R 8627,8628	RAB4CQ103J
	R 8629,8685-8688	RAB4CQ220J
	R 8643	RS1/16SS1500F
	R 8674-8677	RAB4CQ470J
	R 8678-8680,8682	RAB4CQ221J
	R 8695-8697,8699	RAB4CQ101J
	Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No. Description	Part No.
	C 8601,8607,8627,8628	BCG1059
	C 8602,8604-8606	CKSSYB104K10
	C 8603,8626	DCH1201
	C 8608-8611,8613-8617	CKSSYB104K10
	C 8612	CKSRYB105K10
	C 8622,8623,8630-8632	CKSSYB104K10
	C 8624	CCSSCH390J50

Unit Name: TANSHI ASSY(G) (428XG)

Block Name: BOARD IF BLOCK(G)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 8871		BH3544F
	Q 8871		2SC4081
	D 8831,8832		UDZS8R2(B)
	D 8881-8883		UDZS5R1(B)

MISCELLANEOUS

Mark	No.	Description	Part No.
	CN 8801	L-PLUG(11P)	KM200NA11L
	CN 8802	L-PLUG(5P)	KM200NA5L
	CN 8803	40P CONNECTER	AKM1348
	CN 8804	50P CONNECTER	AKM1349
	CN 8805	CONNECTOR 7P	AKM1377
	CN 8806	CONNECTOR	B5P-VH

RESISTORS

Mark	No.	Description	Part No.
	R 8821,8822,8877-8879		RS1/16S0R0J
	R 8828-8830		RS1/10S0R0J
	R 8881,8886,8887		RS1/16S75R0F
	R 8882-8884		RS1/16S0R0J
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 8831,8832,8871-8873		CKSRYB105K10
	C 8874,8879		CKSSYB104K10
	C 8875		DCH1201
	C 8876		CEHVKW470M6R3
	C 8881,8882		CKSRYB105K10
	C 8883,8884		CKSSYB103K16
	C 8885		CKSSYB473K16

Block Name: IO 2 BLOCK(G)

MISCELLANEOUS

Mark	No.	Description	Part No.
	JA 8901	PIN JACK(S+PJ)VERT	AKB1347

RESISTORS

Mark	No.	Description	Part No.
	R 8901-8903,8906-8908		RS1/16S75R0F
	R 8911-8913		RS1/16S75R0F
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 8901,8908,8915		CKSSYB104K10
	C 8902,8909,8916		CKSSYB473K16
	C 8904-8907,8911-8914		CKSRYB105K10
	C 8917,8928,8929		CKSSYB103K16
	C 8918-8921		CKSRYB105K10
	C 8922-8927		CKSSYB102K50

Block Name: IO 2 BLOCK(G)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q 9004-9006		2SD2114K
	Q 9091		HN1B04FU
	D 9002-9008		1SS302
	TH 9091		TH05-3H103F

MISCELLANEOUS

Mark	No.	Description	Part No.
⚠	F 9001-9003	INDUCTOR	CTF1557
	JA 9001	JACK	VKN1449

RESISTORS

Mark	No.	Description	Part No.
	R 9001-9006		RS1/16S75R0F
	R 9007		RS1/10S121J
	R 9008		RS1/10S151J
	R 9016,9021		RS1/16S221J
	R 9091		RS1/16S4701F
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 9001,9002,9091		CKSSYB104K10
	C 9003-9010		CKSRYB105K10
	C 9011,9012		CKSRYB102K50
	C 9013-9015		CKSSYB471K50
	C 9016		DCH1201
	C 9017,9018		CCG1205
	C 9019		ACH1454
	C 9092		CKSSYB103K16

Block Name: MSP BLOCK(G)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 9101		MSP5651M-QK-C2
	IC 9151		BA4560RF
	IC 9181		NJM78M12DL1A
	IC 9191		NJM2846DL3-18
	Q 9001		RT1N241M
	Q 9101		2SC4081
	D 9001		1SS301
	D 9181,9191		1SS352

MISCELLANEOUS

Mark	No.	Description	Part No.
	X 9101	CRYSTAL(20.25MHZ)	ASS1217

RESISTORS

Mark	No.	Description	Part No.
	R 9117		RAB4CQ471J
	R 9125,9126,9131,9132		RS1/16S0R0J
	R 9143-9145		RS1/16S0R0J
	R 9146,9192		RS1/10S0R0J
	R 9184		RS1LMF220J
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 9105-9107		CCG1205
	C 9109,9111,9113,9116		DCH1201
	C 9110,9112,9114,9117		CKSSYB103K16
	C 9115,9120,9130		CKSSYB473K16
	C 9118,9122,9124,9126		DCH1201
	C 9119,9121,9123,9125		CKSSYB103K16
	C 9127,9129,9132,9136		CKSSYB103K16
	C 9128,9134,9137,9144		DCH1201
	C 9131,9133,9135,9138		CCSSCH560J50
	C 9141,9142		CCSSCH220J50
	C 9143,9145,9147		CKSSYB103K16
	C 9146,9148,9153,9154		DCH1165
	C 9151,9152,9192		DCH1201
	C 9155,9184		CKSSYB682K25
	C 9157,9158		CCSSCH150J50
	C 9181		CKSRYB104K25
	C 9182,9183		CEHVKW470M25
	C 9191		CKSRYB105K10

Block Name: D-AMP BLOCK(42)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 9201		TAS5122DCA
	Q 9204		RT1N241M
	Q 9205,9206		2SA1602A

Mark	No.	Description	Part No.

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 9255,9256	INDUCTOR	ATH1225
⚠	F 9251,9252	COMMON MODE FILTER	ATF1224
	CN 9251	PLUG(8P)	KM200NA8

RESISTORS

Mark	No.	Description	Part No.
	R 9201-9204		ACN7141
	R 9209-9212		ACN1269
	R 9213,9214		RS1/16S3R3J
	R 9221,9222,9235,9282		RS1/16S0R0J
	R 9241,9242		RS1/16S103J
	R 9251-9254		RS1/16S1R0J
	R 9255-9258		RS1/16S472J
	R 9259,9260,9273,9274		RS1/16S100J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 9201-9208		CKSRYB224K16
	C 9217-9224		CKSRYB683K16
	C 9225,9226,9235,9236		CKSRYB104K25
	C 9231,9232		BCG1060
	C 9241,9242		CEHAZL182M25-P35
	C 9243,9244		CKSRYB104K25
	C 9251-9254		ACE1182
	C 9255,9256		ACE1183
	C 9257-9264		CKSRYB223K50
	C 9269-9272		CCSRCH221J50
	C 9273-9276		CKSRYB682K50
	C 9277-9280		CKSRYF104Z50
⚠	C 9285-9288		CCSRCH101J50
	C 9289,9290		ACH1456
	C 9291		ACH1430

Unit Name: SIDE IO ASSY(G)

MISCELLANEOUS

Mark	No.	Description	Part No.
	JA 9351	PIN JACK(3P)	AKB1303
	JA 9352	4P MINIDIN SOCKET(S)	AKP1238
	CN 9351	PLUG(11P)	KM200NA11
	CN 9352	PLUG(5P)	KM200NA5
	CN 9353	JACK	AKN1028
	9354,9355	SCREW TERMINAL	VNE1949

RESISTORS

Mark	No.	Description	Part No.
	R 9361,9362		ACN1260
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 9353,9354		CKSSYB102K50
	C 9356		CKSSYB103K16
	C 9361,9362		ACH1454

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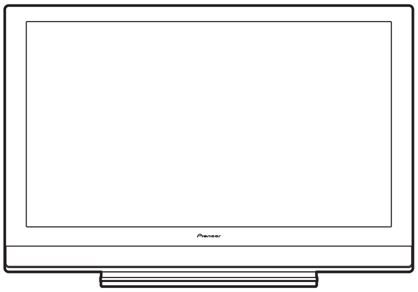
Service Manual



PDP-4280XA

ORDER NO.
ARP3441

PLASMA TELEVISION

PDP-4280XA
PDP-4280XD
PDP-428XD

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-4280XA	WYV5	AC 220 V to 240 V	
	WYVIXK5	AC 220 V to 240 V	
PDP-4280XD	WYV5	AC 220 V to 240 V	
	WYVIXK5	AC 220 V to 240 V	
PDP-428XD	WYV5	AC 220 V to 240 V	
	WYVIXK5	AC 220 V to 240 V	

For details, refer to "Important Check Points for good servicing".

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SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols ▮▭ (fast operating fuse) and/or ▮▭ (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible ▮▭ (fusible de type rapide) et/ou ▮▭ (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

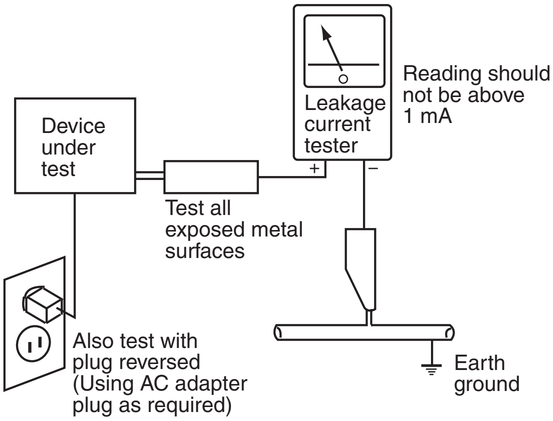
1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
6. Perform the following precautions against unwanted radiation and rise in internal temperature.
   - Always return the internal wiring to the original styling.
   - Attach parts (Gascket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
7. Perform the following precautions for the PDP panel.
   - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
   - Make sure that the panel vent does not break. (Check that the cover is attached.)
   - Handle the FPC connected to the panel carefully.
     Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
8. Pay attention to the following.
   - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 4 MΩ.
The below 4 MΩ resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).
Turn the AC power switch on.
Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1 mA.


Reading should not be above 1 mA
Leakage current tester
+
−
Device under test
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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1. SERVICE PRECAUTIONS

1.1 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit. Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.

- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 °C. Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 °C in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:
- Parts numbers of lead-free solder:
  GYP1006 1.0 in dia.
  GYP1007 0.6 in dia.
  GYP1008 0.3 in dia.

1.2 CHARGED SECTION AND HIGH VOLTAGE GENERATING POINT

■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.
If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. Power cord
2. AC inlet
3. Power switch
4. Fuse (In the POWER SUPPLY Unit)
5. STB transformer and Converter transformer
   (In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.
The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in “5.6.1 PANEL DRIVE-POWER ON/OFF FUNCTION ” are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

POWER SUPPLY Unit	(200 V)
42 X DRIVE Assy	(200 V)
42 Y DRIVE Assy	(-230 V to 500 V)
42 SCAN A Assy	(-230 V to 500 V)
42 SCAN B Assy	(-230 V to 500 V)

▨ : Part is Charged Section.

☐ : Part is the High Voltage Generating Points other than the Charged Section.

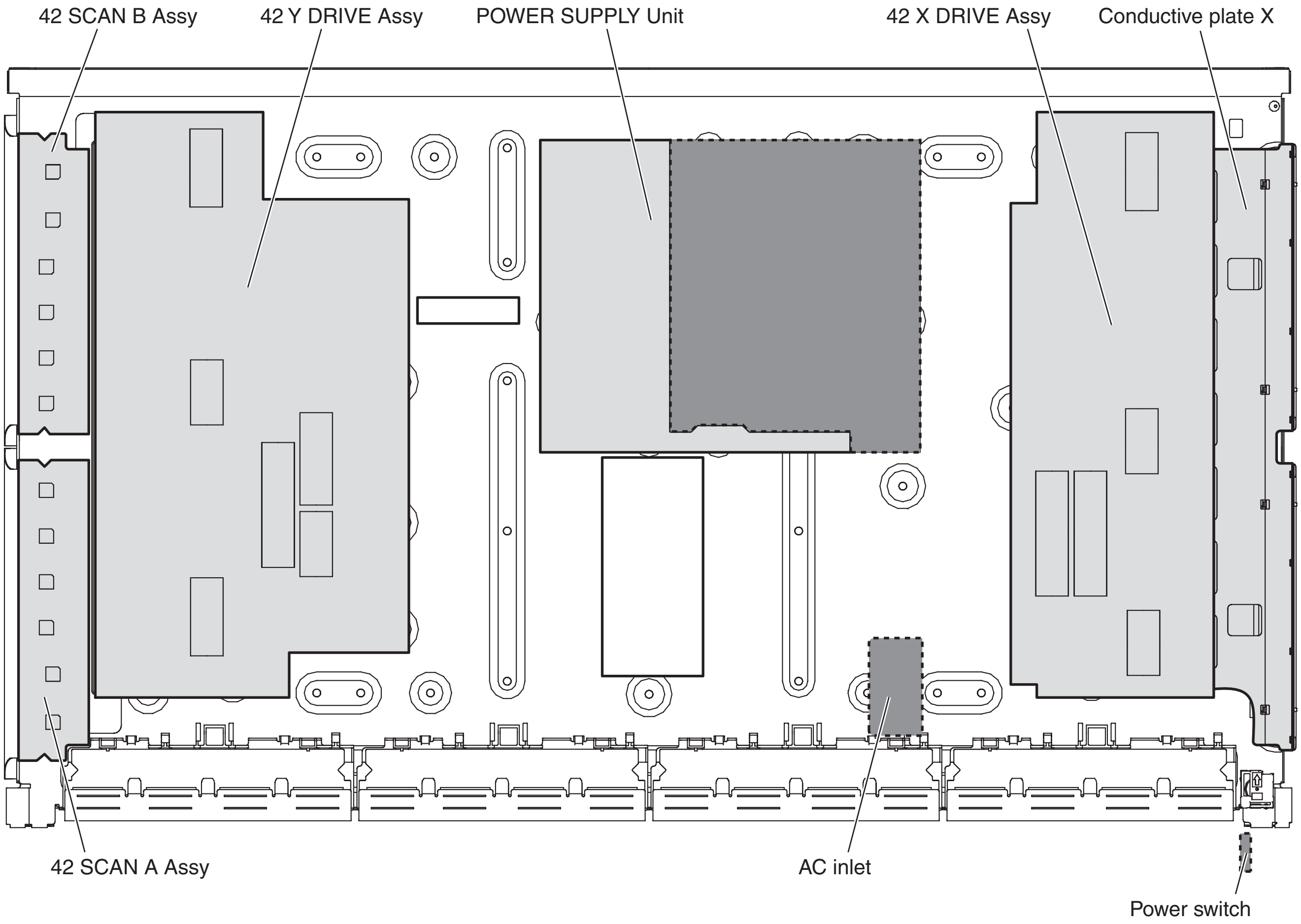
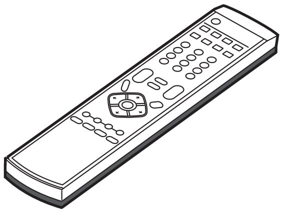


Fig. High Voltage Generating Point (Rear view)

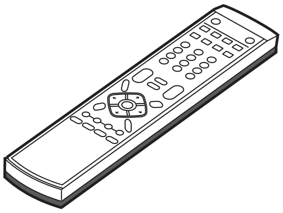
2. SPECIFICATIONS

2.1 ACCESSORIES

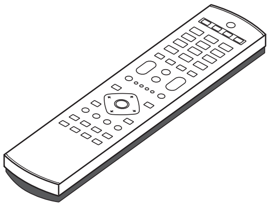
- Remote control unit (PDP-4280XA) (AXD1553)



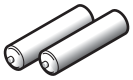
- Remote control unit (PDP-4280XD) (AXD1552)



- Remote control unit (PDP-428XD) (AXD1551)

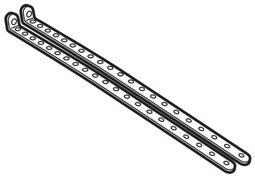


- Dry cell battery (R06, AA)



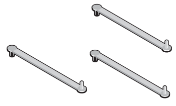
- Band assy (AXY1192)
  - Screw: ×2

  - Plastic band: ×2

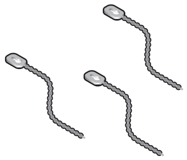


PDP-4280XA, XD only

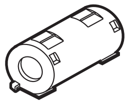
- Binder Assy (AEC1908)
  - Speed clamp: ×3



  - Bead band: ×3

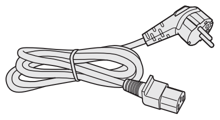


- Ferrite core (L5321) (ATX1039)
  - Ferrite core

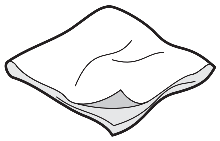


  - Cable tie (for ferrite core)

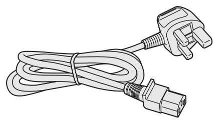
- Power cord (ADG1214)



- Cleaning cloth (AED1285)

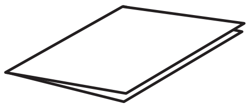


- Power cord (ADG1223)

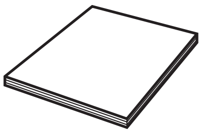


WYVIXK5 type only

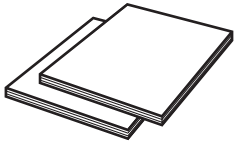
- Warranty card



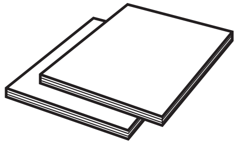
- Operating instructions (PDP-4280XA)
(ARE1478: WYV5)
(ARE1477: WYVIXK5)



- Operating instructions (PDP-4280XD)
(ARE1485: WYV5)
(ARC1602: WYV5)
(ARE1476: WYVIXK5)
(ARC1587: WYVIXK5)



- Operating instructions (PDP-428XD)
(ARE1484: WYV5)
(ARC1601: WYV5)
(ARE1475: WYVIXK5)
(ARC1586: WYVIXK5)



2.2 SPECIFICATIONS

■ PDP-4280XA

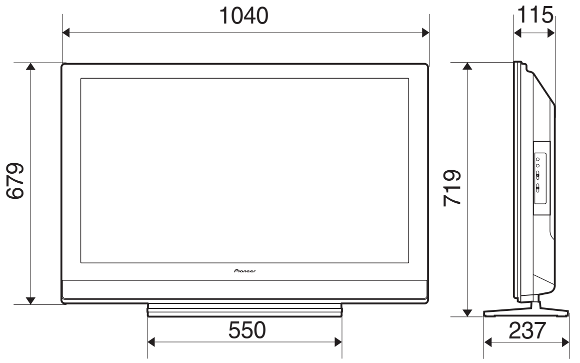
Item				42” plasma television, model: PDP-4280XA
Number of pixels				1024 x 768 pixels
Audio amplifier				17 W + 17 W (1 kHz, 10 %, 6 Ω)
Speakers				Woofer: 4.8 cm x 13 cm cone type Tweeter: 2.5 cm semidome type
Sound Effect			SRS FOCUS/SRS/SRS TruBass	
Power Requirements				220 V to 240 V AC, 50 Hz/60 Hz, 298 W (0.3 W Standby)
Weight				Main unit: 29.5 kg (65.0lbs.) Stand: 1.7 kg (3.8 lbs.) (including bolts) Total: 31.2 kg (68.8 lbs.)
Colour System			PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60	
TV Function	Receiving System		B/G, D/K, I, L/L’	
	Tuner	VHF/UHF	E2–E69 ch, F2–F10 ch, I21–I69 ch, IR A–IR J ch	
		CATV	Hyper-band, S1–S41 ch	
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort	
	STEREO		NICAM/A2	
Terminals	Rear	INPUT 1	SCART (AV in, RGB in, TV out), HDMI in[*1]	
		INPUT 2	SCART (AV in/out, S-VIDEO in, AV link[*2]), Component Video in, AUDIO in	
		INPUT 3	SCART (AV in/out, S-VIDEO in, RGB in, AV link[*2]), HDMI in[*1]	
		INPUT 4	HDMI in[*1]	
		CONTROL OUT	1	
		SPEAKERS		–
		Antenna	75 Ω Din Type for VHF/UHF in	
		PC INPUT	Analogue RGB in, Audio in	
		AUDIO OUT	AUDIO out (Fixed)	
	Side	INPUT 5	S-VIDEO, AV in	
		PHONES	16 Ω to 32 Ω recommended	

[*1] This conforms to HDMI1.3 and HDCP1.1. HDMI (High Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

[*2] Switchable from menu.

Design and specifications are subject to change without notice.

- **Dimensions**



Unit: mm

PDP-4280XD

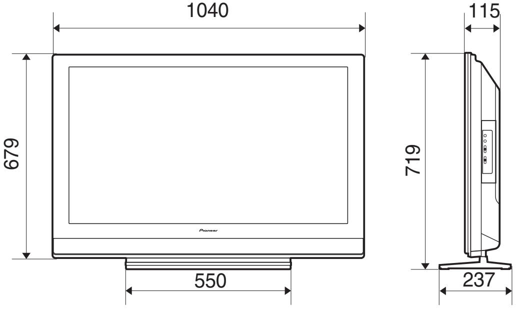
Item				42” plasma television, model: PDP-4280XD
Number of pixels				1024 x 768 pixels
Audio amplifier				17 W + 17 W (1 kHz, 10 %, 6 Ω)
Speakers				Woofer: 4.8 cm x 13 cm cone type Tweeter: 2.5 cm semidome type
Sound Effect			SRS FOCUS/SRS/SRS TruBass	
Power Requirements				220 V to 240 V AC, 50 Hz/60 Hz, 299 W (0.4 W Standby)
Weight				Main unit: 29.6 kg (65.3 lbs.) Stand: 1.7 kg (3.8 lbs.) (including bolts) Total: 31.3 kg (69.0 lbs.)
Colour System		Analogue	PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60	
		Digital	PAL/SECAM	
TV Function (Analogue)	Receiving System		B/G, D/K, I, L/L’	
	Tuner	VHF/UHF	E2–E69 ch, F2–F10 ch, I21–I69 ch, IR A–IR J ch	
		CATV	Hyper-band, S1–S41 ch	
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort	
	STEREO		NICAM/A2	
TV Function (Digital)	Receiving System		DVB-T(2K/8K COFDM)	
	Tuner	VHF/UHF	VHF Band III (170 MHz to 230 MHz) and UHF Band IV, V (470 MHz to 862 MHz)	
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort	
	STEREO		MPEG layer I/II, Dolby Digital	
Terminals	Rear	INPUT 1	SCART (AV in, RGB in, TV out), HDMI in [*1]	
		INPUT 2	SCART (AV in/out, S-VIDEO in, AV link [*2]), Component Video in, AUDIO in	
		INPUT 3	SCART (AV in/out, S-VIDEO in, RGB in, AV link[*2]), HDMI in[*1]	
		INPUT 4	HDMI in[*1]	
		CONTROL OUT	1	
		SPEAKERS		–
		Antenna	75 Ω Din Type for VHF/UHF in	
		PC INPUT	Analogue RGB in, Audio in	
		AUDIO OUT	AUDIO out (Fixed)	
		DIGITAL OUT	Digital audio output (Optical)	
		COMMON INTERFACE	CA Module	
	Side	INPUT 5	S-VIDEO, AV in	
		PHONES	16 Ω to 32 Ω recommended	

[*1] This conforms to HDMI1.3 and HDCP1.1. HDMI (High Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

[*2] Switchable from menu.

Design and specifications are subject to change without notice.

- **Dimensions**



Unit: mm

PDP-428XD

Item				42" plasma television, model: PDP-428XD
Number of pixels				1024 x 768 pixels
Audio amplifier				17 W + 17 W (1 kHz, 10 %, 6 Ω)
Speakers				Woofer: 4.8 cm x 13 cm cone type Tweeter: 2.5 cm semidome type
Sound Effect			SRS FOCUS/SRS/SRS TruBass	
Power Requirements				220 V to 240 V AC, 50 Hz/60 Hz, 299 W (0.4 W Standby)
Weight				29.6 kg (65.3 lbs.)
Colour System		Analogue	PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60	
		Digital	PAL/SECAM	
TV Function (Analogue)	Receiving System		B/G, D/K, I, L/L'	
	Tuner	VHF/UHF	E2–E69 ch, F2–F10 ch, I21–I69 ch, IR A–IR J ch	
		CATV	Hyper-band, S1–S41 ch	
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort	
	STEREO		NICAM/A2	
TV Function (Digital)	Receiving System		DVB-T(2K/8K COFDM)	
	Tuner	VHF/UHF	VHF Band III (170 MHz to 230 MHz) and UHF Band IV, V (470 MHz to 862 MHz)	
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort	
	STEREO		MPEG layer I/II, Dolby Digital	
Terminals	Rear	INPUT 1	SCART (AV in, RGB in, TV out), HDMI in [*1]	
		INPUT 2	SCART (AV in/out, S-VIDEO in, AV link [*2]), Component Video in, AUDIO in	
		INPUT 3	SCART (AV in/out, S-VIDEO in, RGB in, AV link[*2]), HDMI in[*1]	
		INPUT 4	HDMI in[*1]	
		CONTROL OUT	1	
		SPEAKERS		–
		Antenna	75 Ω Din Type for VHF/UHF in	
		PC INPUT	Analogue RGB in, Audio in	
		AUDIO OUT	AUDIO out (Fixed)	
		SUB WOOFER	Variable	
		DIGITAL OUT	Digital audio output (Optical)	
		COMMON INTERFACE	CA Module	
	Side	INPUT 5	S-VIDEO, AV in	
		USB	USB in[*3]	
		PHONES	16 Ω to 32 Ω recommended	

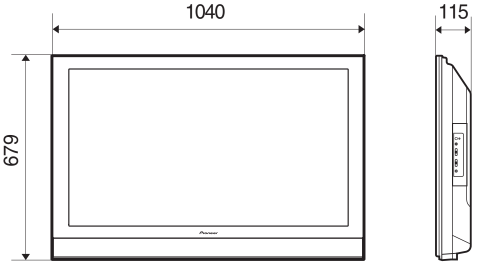
[*1] This conforms to HDMI1.3 and HDCP1.1. HDMI (High Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

[*2] Switchable from menu.

[*3] This conforms to USB 1.1 and 2.0 specifications.

Design and specifications are subject to change without notice.

- **Dimensions**

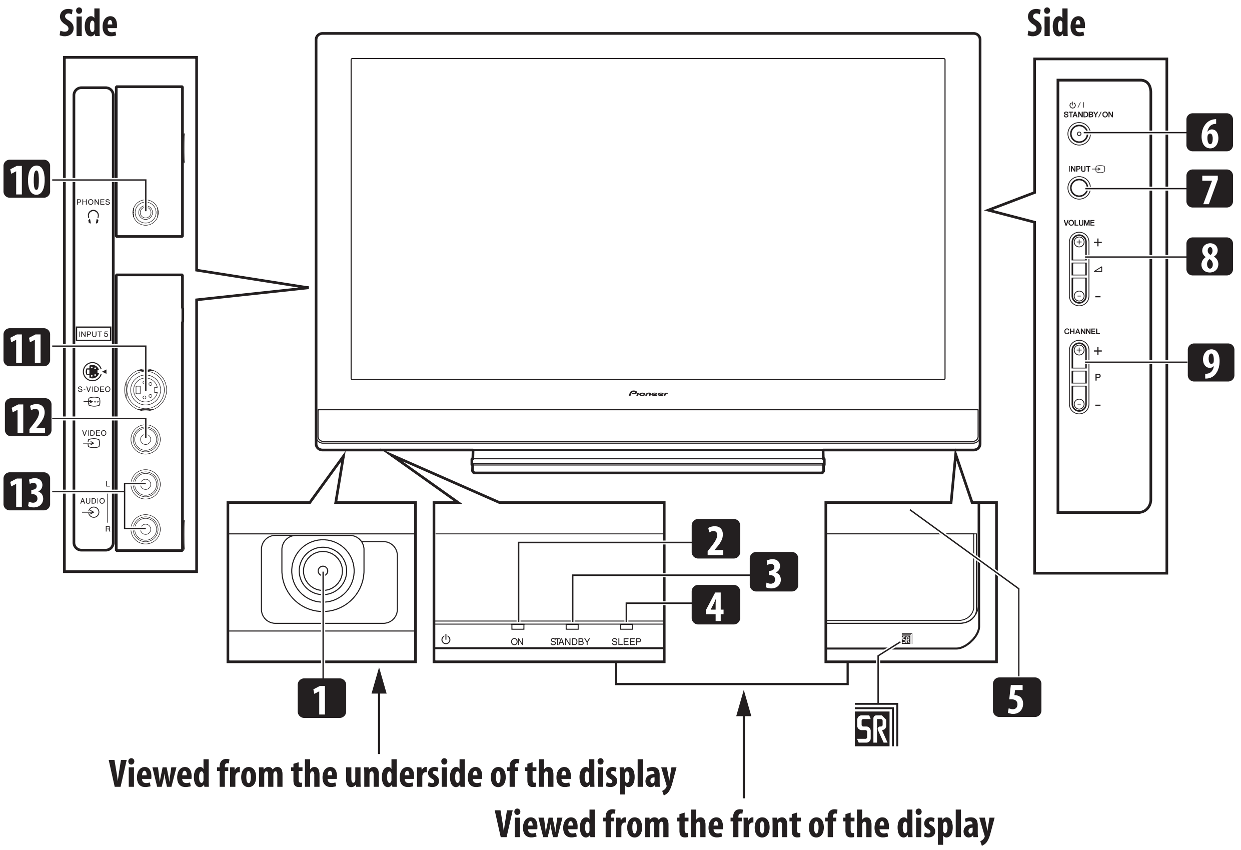


Unit: mm

2.3 PANEL FACILITIES

■ PDP-4280XA

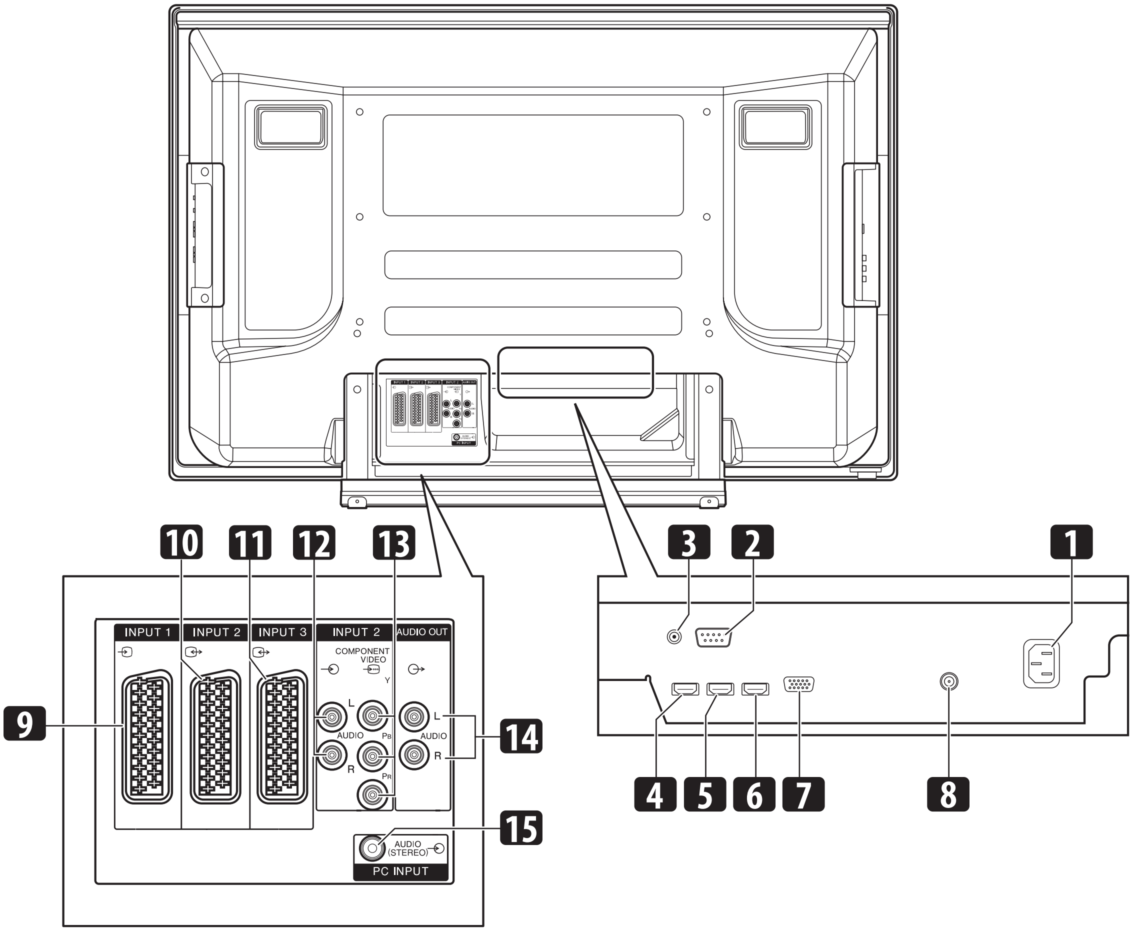
• Front Section


Side
Side
10
PHONES
INPUT 5
11
S-VIDEO
12
VIDEO
13
L
AUDIO
R
STANDBY/ON
6
INPUT
7
VOLUME
+
−
8
CHANNEL
+
P
−
9
Pioneer
2
3
4
ON
STANDBY
SLEEP
1
5
SR
Viewed from the underside of the display
Viewed from the front of the display

1 ⏻ button (If the button is off, the power will not turn on even when ⏻, **0** to **9** on the remote control unit or **STANDBY/ON** on the plasma television are pressed.)
2 POWER ON indicator
3 STANDBY indicator
4 SLEEP indicator
5 Remote control sensor
6 **STANDBY/ON** button
7 **INPUT** button
8 **VOLUME +/–** buttons
9 **CHANNEL +/–** buttons
10 PHONES output terminal
11 INPUT 5 terminal (S-VIDEO)
12 INPUT 5 terminal (VIDEO)
13 INPUT 5 terminals (AUDIO)

PDP-4280XA

• Rear Section

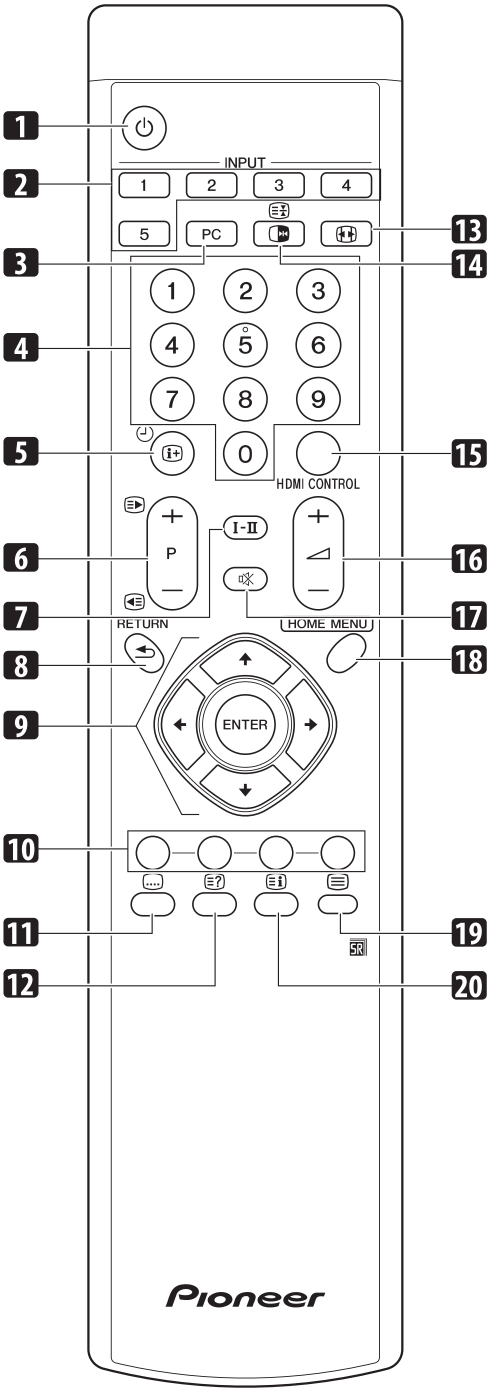

10
11
12
13
3
2
1
INPUT 1
INPUT 2
INPUT 3
INPUT 2
AUDIO OUT
COMPONENT VIDEO
Y
L
AUDIO
PB
R
PR
AUDIO
L
R
9
14
15
AUDIO (STEREO)
PC INPUT
4
5
6
7
8

1 AC IN terminal
2 RS-232C terminal (used for factory setup)
3 CONTROL OUT terminal (supports **SR+**)
4 INPUT 1 terminal (HDMI)
5 INPUT 3 terminal (HDMI)
6 INPUT 4 terminal (HDMI)
7 PC INPUT terminal (Analogue RGB)
8 ANT (Antenna) input terminal
9 INPUT 1 terminal (SCART)
10 INPUT 2 terminal (SCART)
11 INPUT 3 terminal (SCART)
12 INPUT 2 terminals (Audio)
13 INPUT 2 terminals (COMPONENT VIDEO: Y, P_B, P_R)
14 AUDIO OUT terminals
15 PC INPUT terminal (Audio)

PDP-4280XA

• Remote Control Unit

Point the remote control at the plasma television to operate.



1 ⏻

Turns on the power to the plasma television or places it into the standby mode.

2 INPUT

Selects an input source of the plasma television. (“INPUT 1”, “INPUT 2”, “INPUT 3”, “INPUT 4”, “INPUT 5”)

3 PC

Selects the PC terminal as an input source.

4 0 to 9

TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.

5 i+ ◴

Displays the channel information.

6 P+/P–

TV/External input mode: Selects a channel.

≡▶/◀≡

Teletext mode: Selects a page.

7 I–II

Sets the sound multiplex mode.

8 ↩ RETURN

Restores the previous menu screen.

9 ⬆/⬇/⬅/➡

Selects a desired item on the setting screen.

ENTER

Executes a command.

10 Colour (RED/GREEN/YELLOW/BLUE)

Teletext mode: Selects a page.

11 ….

Jumps to Teletext subtitle page.

12 ≡?

Displays hidden characters.

13 ◀▶

Selects the screen size.

14 ◧

TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.

≡⧗

Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.

15 HDMI CONTROL

Displays the HDMI Control menu.

16 ◿ +/◿ –

Sets the volume.

17 🔇

Mutes the sound.

18 HOME MENU

Displays the HOME MENU screen.

19 ≡

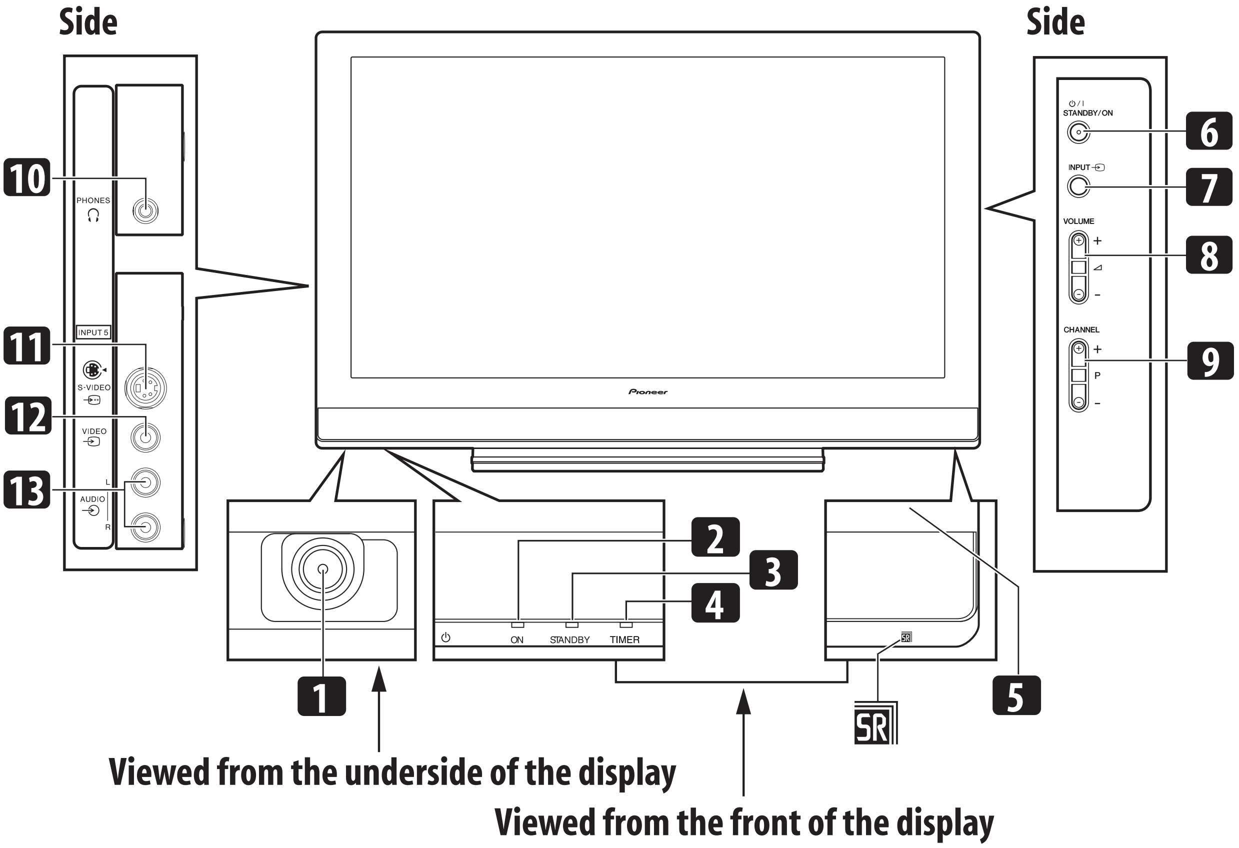
Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).

20 ≡i

Displays an Index page for the CEEFAX/FLOF format. Displays a TOP Over View page for the TOP format.

PDP-4280XD

• Front Section

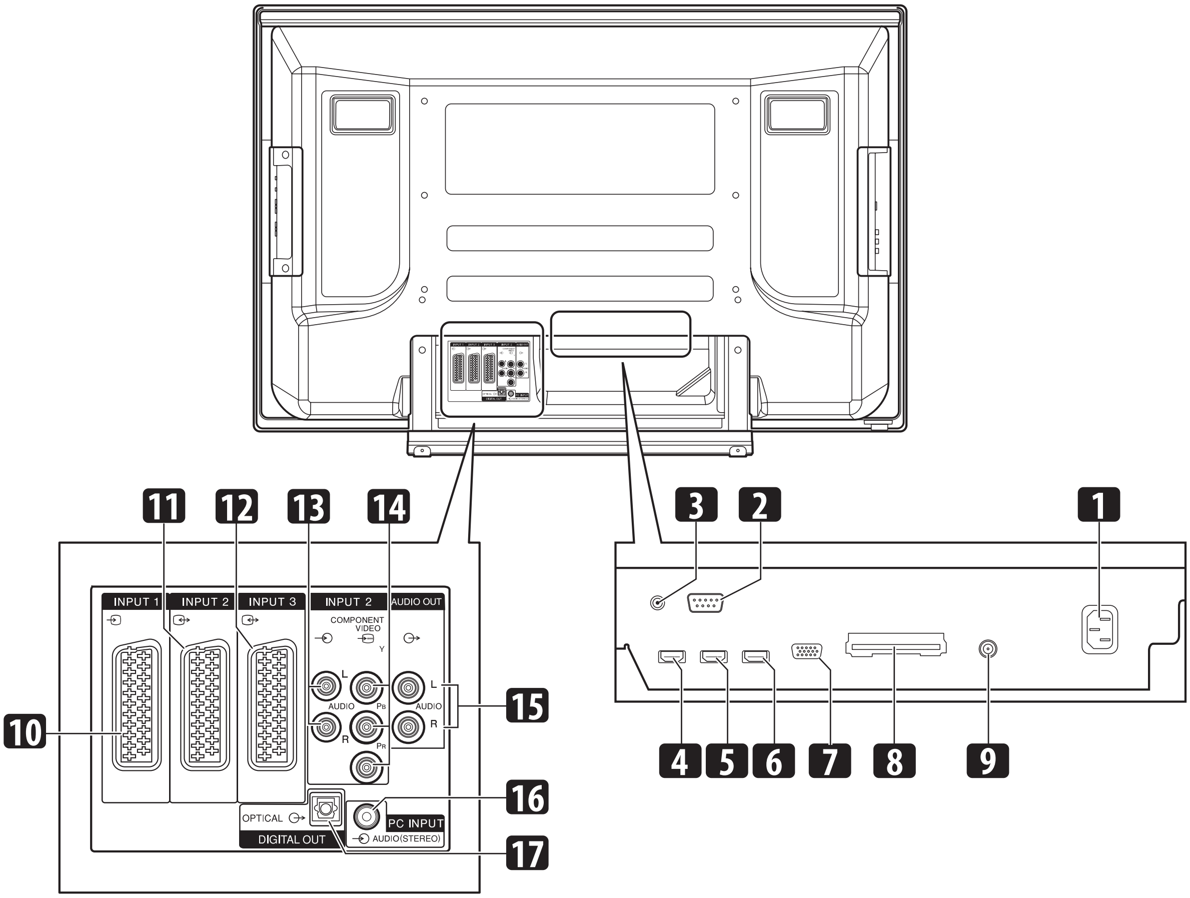

Side
Side
10
PHONES
11
INPUT 5
S-VIDEO
12
VIDEO
13
AUDIO
L
R
⏻ / I
STANDBY/ON
6
INPUT
7
VOLUME
+
–
8
CHANNEL
+
P
–
9
Pioneer
1
2
3
4
⏻
ON
STANDBY
TIMER
5
SR
Viewed from the underside of the display
Viewed from the front of the display

1 ⏻ button (If the button is off, the power will not turn on even when ⏻, **0** to **9** on the remote control unit or **STANDBY/ON** on the plasma television are pressed.)
2 POWER ON indicator
3 STANDBY indicator
4 TIMER indicator
- The TIMER indicator lights up when one or more DTV programmes are preset for watching or recording.

5 Remote control sensor
6 **STANDBY/ON** button
7 **INPUT** button
8 **VOLUME +/–** buttons
9 **CHANNEL +/–** buttons
10 PHONES output terminal
11 INPUT 5 terminal (S-VIDEO)
12 INPUT 5 terminal (VIDEO)
13 INPUT 5 terminals (AUDIO)

PDP-4280XD

• Rear Section


11
12
13
14
3
2
1
INPUT 1
INPUT 2
INPUT 3
INPUT 2
AUDIO OUT
COMPONENT VIDEO
Y
L
AUDIO
PB
R
PR
AUDIO
L
R
10
15
OPTICAL
DIGITAL OUT
PC INPUT
AUDIO(STEREO)
16
17
4
5
6
7
8
9

1 AC IN terminal
2 RS-232C terminal (used for factory setup)
3 CONTROL OUT terminal (supports **SR+**)
4 INPUT 1 terminal (HDMI)
5 INPUT 3 terminal (HDMI)
6 INPUT 4 terminal (HDMI)
7 PC INPUT terminal (Analogue RGB)
8 COMMON INTERFACE slot
- For a CA Module with a smart card

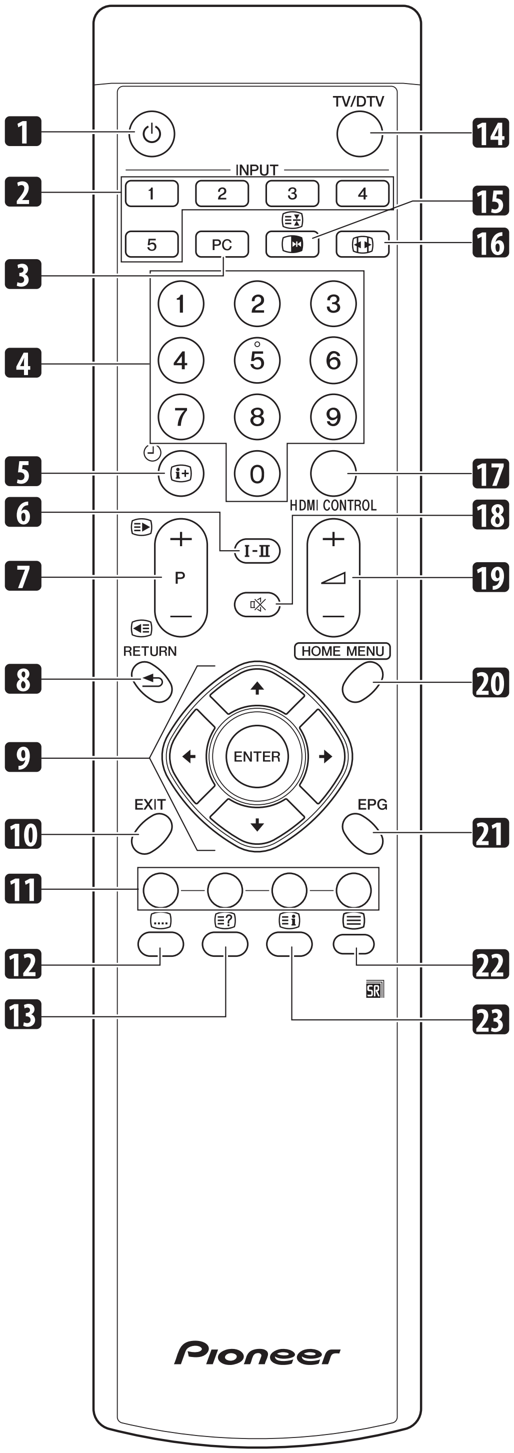
9 ANT (Antenna) input terminal
- Power can be supplied through this terminal

10 INPUT 1 terminal (SCART)
11 INPUT 2 terminal (SCART)
12 INPUT 3 terminal (SCART)
13 INPUT 2 terminals (Audio)
14 INPUT 2 terminals (COMPONENT VIDEO: Y, P_B, P_R)
15 AUDIO OUT terminals
16 PC INPUT terminal (Audio)
17 DIGITAL OUT terminal (OPTICAL)

■ PDP-4280XD

• Remote Control Unit

Point the remote control at the plasma television to operate.



1 **⏻:** Turns on the power to the plasma television or places it into the standby mode.

2 **INPUT:** Selects an input source of the plasma television. ("INPUT 1", "INPUT 2", "INPUT 3", "INPUT 4", "INPUT 5")

3 **PC:** Selects the PC terminal as an input source.

4 **0 - 9:** TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.

5 **ℹ+ ◷ :** Displays the channel information.
Displays the banner information in DTV input mode.

6 **I–II:** Sets the sound multiplex mode.

7 **P+/P–:** TV/External input mode: Selects a channel.

≡▶/◀≡: Teletext mode: Selects a page.

8 **↩ RETURN:** Restores the previous menu screen.

9 **↑/↓/←/→:** Selects a desired item on the setting screen.

ENTER: Executes a command.

10 **EXIT:** Returns to the normal screen in one step.

11 **Colour (RED/GREEN/YELLOW/BLUE):**
Teletext mode: Selects a page.

12 **…:** Jumps to Teletext subtitle page.
Turns subtitle on and off in DTV input mode depending on the broadcast.

13 **≡?:** Displays hidden characters.

14 **TV/DTV:** Switches between the TV and DTV input modes.

15 **⏸:** TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.

≡⧗ : Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.

16 **⟷:** Selects the screen size.

17 **HDMI CONTROL:** Displays the HDMI Control menu.

18 **🔇:** Mutes the sound.

19 **◿ +/◿ –:** Sets the volume.

20 **HOME MENU:** Displays the HOME MENU screen.

21 **EPG:** Displays the Electronic Programme Guide in DTV input mode.

22 **≡:** Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).

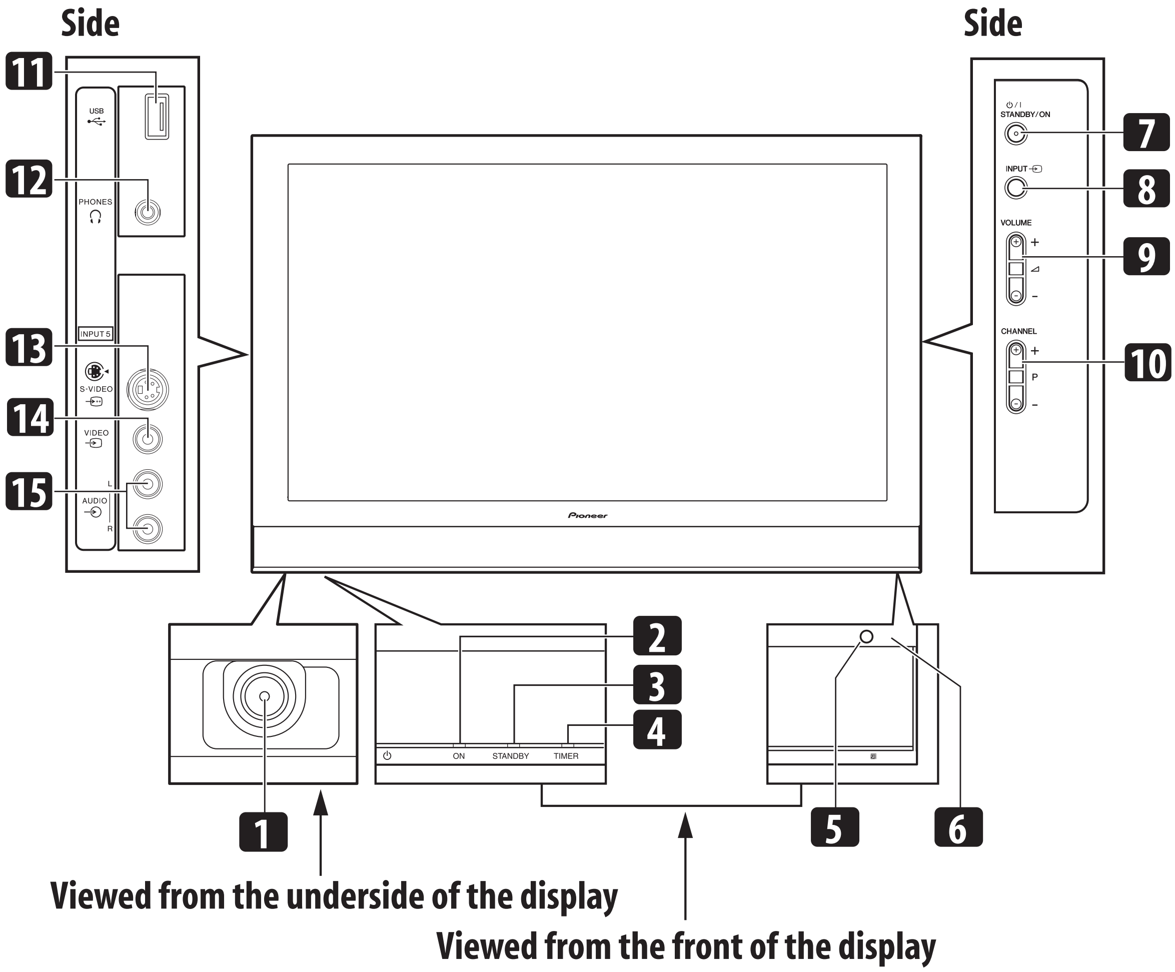
23 **≡i:** Displays an Index page for the CEEFAX/FLOF format.
Displays a TOP Over View page for the TOP format.

Note

- When using the remote control unit, point it at the plasma television.

PDP-428XD

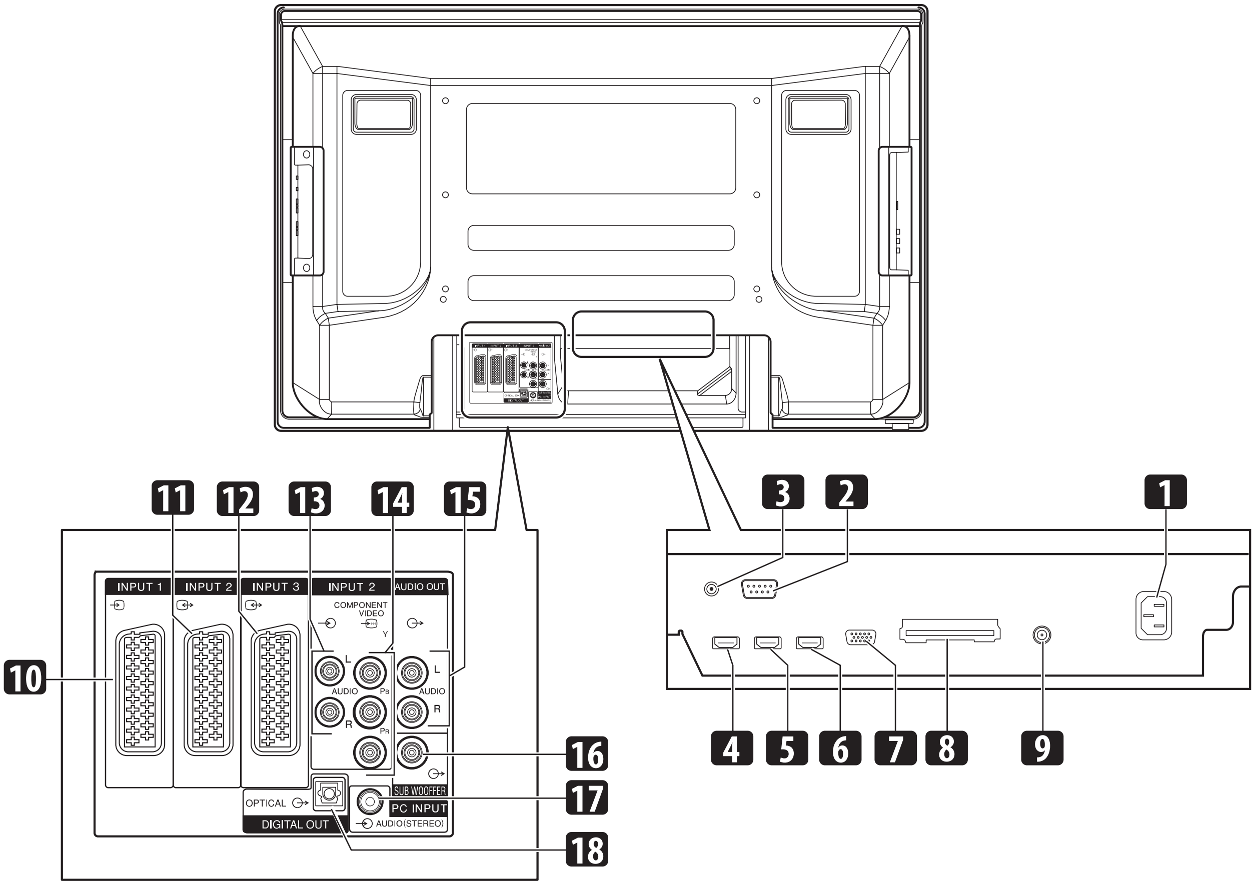
• Front Section


Side
Side
11
12
13
14
15
USB
PHONES
INPUT 5
S-VIDEO
VIDEO
AUDIO
L
R
STANDBY/ON
INPUT
VOLUME
+
–
CHANNEL
+
P
–
7
8
9
10
Pioneer
ON
STANDBY
TIMER
1
2
3
4
5
6
Viewed from the underside of the display
Viewed from the front of the display

1	⏻ button (If the button is off, the power will not turn on even when ⏻, **0** to **9** on the remote control unit or **STANDBY/ON** on the plasma television are pressed.)
2	POWER ON indicator
3	STANDBY indicator
4	TIMER indicator • The TIMER indicator lights up when one or more DTV programmes are preset for watching or recording.
5	Room Light Sensor
6	Remote control sensor
7	**STANDBY/ON** button
8	**INPUT** button
9	**VOLUME +/–** buttons
10	**CHANNEL +/–** buttons
11	USB port
12	PHONES output terminal
13	INPUT 5 terminal (S-VIDEO)
14	INPUT 5 terminal (VIDEO)
15	INPUT 5 terminals (AUDIO)

PDP-428XD

• Rear Section


11
12
13
14
15
3
2
1
INPUT 1
INPUT 2
INPUT 3
INPUT 2
AUDIO OUT
COMPONENT VIDEO
Y
L
AUDIO
PB
R
PR
L
AUDIO
R
10
16
SUB WOOFER
17
PC INPUT
OPTICAL
DIGITAL OUT
AUDIO(STEREO)
18
4
5
6
7
8
9

1 AC IN terminal
2 RS-232C terminal (used for factory setup)
3 CONTROL OUT terminal (supports **SR+**)
4 INPUT 1 terminal (HDMI)
5 INPUT 3 terminal (HDMI)
6 INPUT 4 terminal (HDMI)
7 PC INPUT terminal (Analogue RGB)
8 COMMON INTERFACE slot
- For a CA Module with a smart card

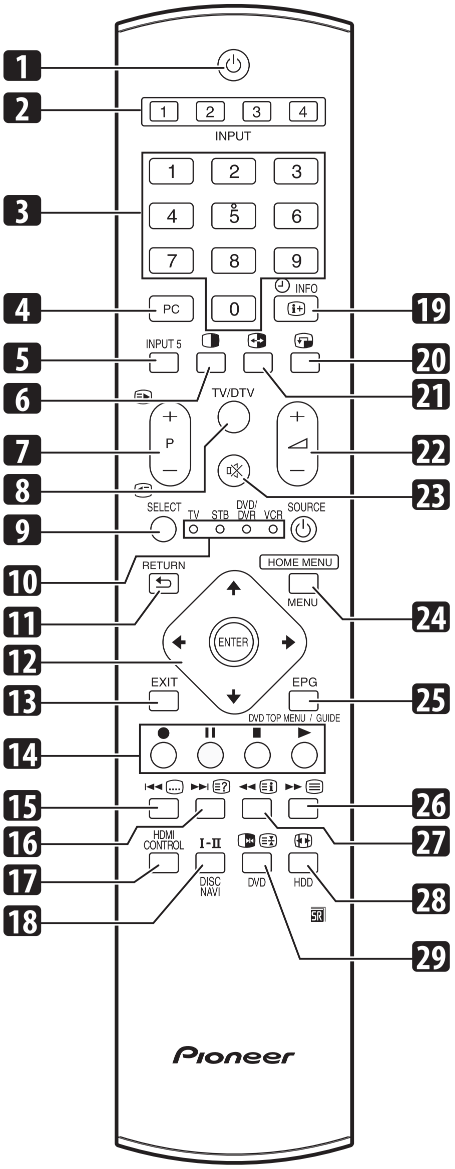
9 ANT (Antenna) input terminal
- Power can be supplied through this terminal

10 INPUT 1 terminal (SCART)
11 INPUT 2 terminal (SCART)
12 INPUT 3 terminal (SCART)
13 INPUT 2 terminals (Audio)
14 INPUT 2 terminals (COMPONENT VIDEO: Y, P_B, P_R)
15 AUDIO OUT terminals
16 SUBWOOFER output terminal
17 PC INPUT terminal (Audio)
18 DIGITAL OUT terminal (OPTICAL)

PDP-428XD

• Remote Control Unit

This section describes the functions of the buttons available when the TV mode has been selected by using the **SELECT** button.



1 **⏻:** Turns on the power to the plasma television or places it into the standby mode.

2 **INPUT:** Selects an input source of the plasma television. (“INPUT 1”, “INPUT 2”, “INPUT 3”, “INPUT 4”)

3 **0 - 9:** TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.

4 **PC:** Selects the PC terminal as an input source.

5 **INPUT 5:** Selects INPUT 5 as the input source of the plasma television.

6 **◧:** Switches the screen mode among 2-screen, picture-in-picture, and single-screen.

7 **P+/P–:** TV/External input mode: Selects a channel.

≡▶/◀≡: Teletext mode: Selects a page.

8 **TV/DTV:** Switches between the TV and DTV input modes.

9 **SELECT:** Switches the selection among TV, STB, DVD/DVR, and VCR, so that you can control other connected equipment, using the supplied remote control unit.

10 **TV, STB, DVD/DVR, VCR:** These indicators show the current selection and status when you control other connected equipment, using the supplied remote control unit.

11 **↩ RETURN:** Restores the previous menu screen.

12 **⬆/⬇/⬅/➡:** Selects a desired item on the setting screen.

ENTER: Executes a command.

13 **EXIT:** Returns to the normal screen in one step.

14 **Colour (RED/GREEN/YELLOW/BLUE):**
Teletext mode: Selects a page.

15 **⋯:** Jumps to Teletext subtitle page.
Turns subtitle on and off in DTV input mode depending on the broadcast.

16 **≡?:** Displays hidden characters.

17 **HDMI CONTROL:** Displays the HDMI Control menu.

18 **I–II:** Sets the sound multiplex mode.

19 **ⓘ+ ◷ INFO:** Displays the channel information.
Displays the banner information in DTV input mode.

20 **⧉:** Moves the location of the small screen when in the picture-in-picture mode.

21 **↔:** Switches between the two screens when in the 2-screen or picture-in-picture mode.

22 **◿+/◿–:** Sets the volume.

23 **🔇:** Mutes the sound.

24 **HOME MENU:** Displays the HOME MENU screen.

25 **EPG:** Displays the Electronic Programme Guide in DTV input mode.

26 **≡:** Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).

27 **≡i:** Displays an Index page for the CEEFAX/FLOF format.
Displays a TOP Over View page for the TOP format.

28 **⇔:** Selects the screen size.

29 **◨:** TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.

≡⧗ : Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.

Note

- When using the remote control unit, point it at the plasma television.

3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

Items to be checked after repair (PDP)

To ensure the quality of the product after repair, check the recommended items shown below:

No.	Procedures	Item to be checked
1	Check if all the symptoms pointed out by the customer have been addressed.	The symptoms in question must not be reproduced.
2	Connect the peripheral equipment.	Connect all external peripheral equipment as originally connected and check if the connections are correct.
3	Check the video and audio.	Tune in to the stations that the customer would normally receive and check if video and audio are normal.
4	Check the buttons and controls.	Use the buttons and controls on the remote control unit and main unit and check if they operate properly.
5	Check the cabinet.	Check for any scratches or dirt that have been made or attached on the cabinet after receiving the product for repair.

See the table below for the items to be checked regarding video and audio:

Item to be checked regarding video	Item to be checked regarding audio
Block noise	Distortion
Horizontal noise	Noise
Dot noise	Volume too low
Disturbed image (video jumpiness)	Volume too high
Too dark	Volume fluctuating
Too bright	Sound interrupted
Mottled color	

3.2 QUICK REFERENCE

Quick Reference upon Service Visit ①
Notes, PD/SD diagnosis, and methods for various settings

Notes when visiting for service

1. Notes when disassembling/reassembling

① **Rear case**
When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "7. DISASSEMBLY".

② **Attaching screws for the HDMI connector**
When attaching the HDMI connector after replacing the Main Assy, secure the HDMI connector manually with a screwdriver, but not with an electric screwdriver. If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

2. On parts replacement

① **How to discharge before replacing the Assys**
A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:
A: Let the panel sit at least for 3 minutes after the power is turned off.
B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.
For details, see "5.6.1 PANEL DRIVE-POWER ON/OFF FUNCTION".

② **On the settings after replacement of the Assys**
Some boards need settings made after replacement of the Assys. For details, see "8. EACH SETTING AND ADJUSTMENT".

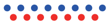
3. On various settings

① **Setting in Factory mode**
After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

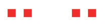
PD/SD			
	Item	No. of LEDs flashing	
		Red	Blue
Panel section	SQ_LSI		Blue 1
	Communication with the module IIC		Blue 2
	DIGITAL-RST2		Blue 3
	Panel high temperature		Blue 4
MTB section	Audio/ Short-circuit SP terminal		Blue 5
	Communication with the Module UCOM		Blue 6
	Main 3-wire serial communication		Blue 7
	Main IIC communication		Blue 8
	Communication with the Main UCOM		Blue 9
	FAN		Blue 10
	Unit high temperature		Blue 11
	Digital Tuner communication		Blue 12
	MTB-RST2/RST4		Blue 13
	Main EEPROM		Blue 15
POWER		Red 2	
SCAN		Red 3	
SCN-5V		Red 4	
Y-DRIVE		Red 5	
Y-DCDC		Red 6	
Y-SUS		Red 7	
ADRS		Red 8	
X-DRIVE		Red 9	
X-DCDC		Red 10	
X-SUS		Red 11	
DIG-DCDC		Red 12	
UNKNOWN		Red 15	

LED Display Information

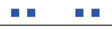
① Rewriting software



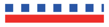
② PD (2-15)



③ SD (1-15)



④ No backup



This indication does not display all LED patterns.
For details, please refer to 5.1.1 LED DISPLAY INFORMATION.

How to locate several items on the Factory menu

{ } : Item on the Factory menu
[ ] : Key on the remote control unit
" " : Screen indication

1. Confirmation of accumulated power-on time and power-on count
Select {INFORMATION} then {HOUR METER}.
(After entering Factory mode, press [⬇] five times.)

2. Confirmation of the Power-down and Shutdown histories

① **Panel system**
PD: Select {PANEL FACTORY} then {POWER DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] three times.)
SD: Select {PANEL FACTORY} then {SHUT DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] four times.)

② **MTB section**
Select {INFORMATION} then {MAIN NG}.
(After entering Factory mode, press [⬇] three times.)

3. How to display the Mask indication

① **Mask indication in the panel side**
1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] 8 times.)
2. Press [ENTER/SET], then select a Mask indication, using [⬇] or [⬆].

Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

1. Digital Video Assy: Transfer of backup data
① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, then press [ENTER/SET].)
② Select {TRANSFER}, using [➡], then hold [ENTER/SET] pressed for at least 5 seconds.
③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

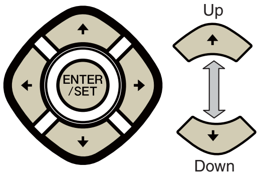
2. MAIN Assy: Execution of FINAL SETUP.
① Select {INITIALIZE} then {FINAL SETUP}, then press [ENTER/SET]. (After entering Factory mode, press [MUTING] three times, then press [⬇] four times.)
② Select "YES", using [➡]. Then hold [ENTER/SET] pressed for at least 5 seconds.
③ After "FINAL SETUP IS COMPLETE" is displayed on the screen, turn the POWER switch of the main unit off.

3. POWER SUPPLY Unit: Clearance of the accumulated power-on count and maximum temperature value
① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] six times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

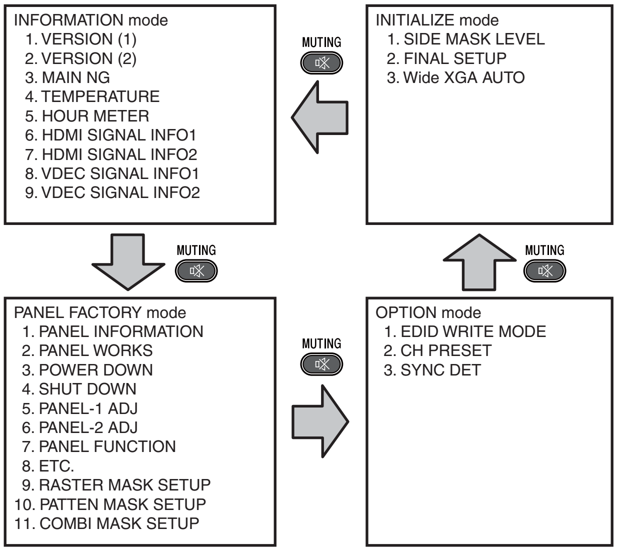
4. Other Assys: Clearance of the maximum temperature value
① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] seven times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected.

Quick Reference upon Service Visit ②
Mode transition and structure of layers in Service Factory mode

Mode transition in Service Factory mode



- To shift to another mode, press [MUTING].
- To shift to another item in a specific mode, press [🡅] or [🡇].
- To shift to the next nested layer below for an item with a "(+)" indication, press [ENTER/SET]. To return to the next nested layer above, also press [ENTER/SET].



INFORMATION mode
1. VERSION (1)
2. VERSION (2)
3. MAIN NG
4. TEMPERATURE
5. HOUR METER
6. HDMI SIGNAL INFO1
7. HDMI SIGNAL INFO2
8. VDEC SIGNAL INFO1
9. VDEC SIGNAL INFO2

PANEL FACTORY mode
1. PANEL INFORMATION
2. PANEL WORKS
3. POWER DOWN
4. SHUT DOWN
5. PANEL-1 ADJ
6. PANEL-2 ADJ
7. PANEL FUNCTION
8. ETC.
9. RASTER MASK SETUP
10. PATTEN MASK SETUP
11. COMBI MASK SETUP

OPTION mode
1. EDID WRITE MODE
2. CH PRESET
3. SYNC DET

INITIALIZE mode
1. SIDE MASK LEVEL
2. FINAL SETUP
3. Wide XGA AUTO

Structure of Layers in Service Factory Mode

INFORMATION mode	
├ 1. VERSION (1)	The software versions for each microcomputer
├ 2. VERSION (2)	The Flash memory versions for each device
├ 3. MAIN NG	The shutdown message ID/event times (Going Clear mode by [ENTER/SET] key)
│ └ 3-1. CLEAR	Select Yes by [➡] key, ➡ pressing and hold [ENTER/SET] key
├ 4. TEMPERATURE	The temperature/FAN rotating status/Room light sensor
├ 5. HOUR METER	The HOUR METER/P-COUNT information
├ 6. HDMI SIGNAL INFO 1	The information of HDMI information files
├ 7. HDMI SIGNAL INFO 2	The information of HDMI information files
├ 8. VDEC SIGNAL INFO 1	The signal information of VDEC
├ 9. VDEC SIGNAL INFO 2	The signal information of VDEC
PANEL FACTORY mode	Refer to [PANEL FACTORY MODE]
OPTION mode	
├ 1. EDID WRITE MODE	For factory use
├ 2. CH PRESET	For production line use
├ 3. SYNC DET	For technical analysis
INITIALIZE mode	
├ 1. SIDE MASK LEVEL	For factory use
│ └ 1-1. SIDE MASK LEVEL	
├ 2. FINAL SETUP	Set to Factory default settings (it should perform after replacing a MAIN Assy)
│ └ 2-1. DATA RESET	
└ 3. Wide XGA AUTO	For technical analysis

Structure of Layers in Panel Factory Mode 1

1. PANEL INFORMATION	Version indication of the panel
2. PANEL WORKS	Indications of the accumulated power-on time, pulse-meter count, and power-on count of the panel
3. POWER DOWN	Indication of the Power-down history
4. SHUT DOWN	Indication of the Shutdown history
5. PANEL-1 ADJ (+)	
├ 1. VOL SUS	Settings required after replacement of the panel
├ 2. VOL OFFSET	
• • • • •	
├ 8. VOL YNOFS4	
├ 9. RESET1ST_KSB	Modification not required because these items are basically for factory presetting
├ 10. RESET2ND_KSB	
• • • • •	
├ 23. YSTL_FMR_HZ	
├ 24. SUS FREQ	For AM noise prevention (Depending on the mode, brightness of the screen changes.) For confirmation of the result of the setting change, the unit must be turned off then back on again.
6. PANEL-2 ADJ (+)	
├ 1. R-HIGH	Parameters for the WB adjustment of the panel, which are required during adjustment after panel replacement
├ 2. G-HIGH	
├ 3 .B-HIGH	
├ 4. R-LOW	
├ 5. G-LOW	
├ 6. B-LOW	
├ 7. ABL	Setting of the power consumption. A setting table is available for each vertical signal.

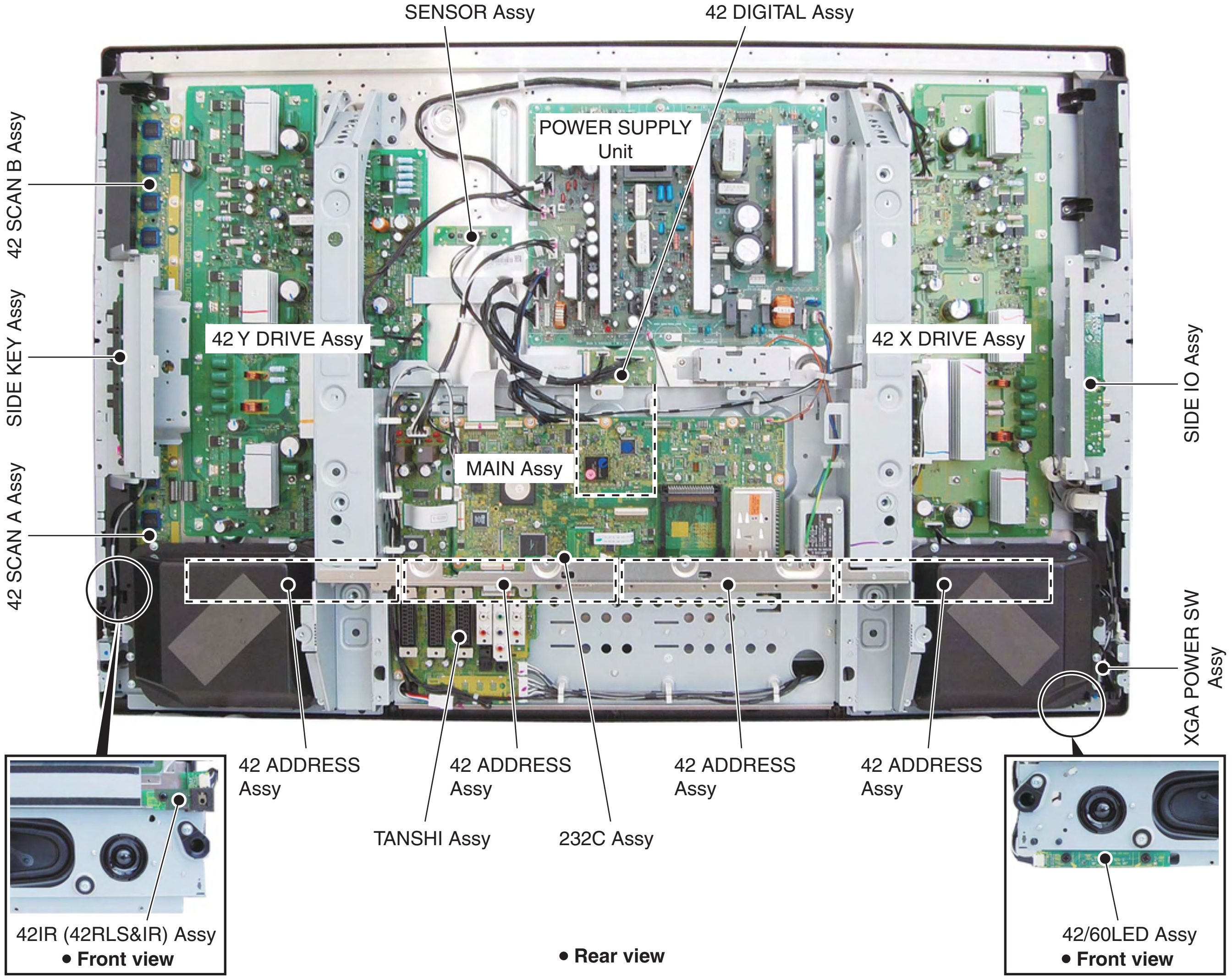
To "Structure of Layers in Panel Factory Mode 2"

Structure of Layers in Panel Factory Mode 2

7. PANEL FUNCTION (+)	
├ 1. R-LEVEL	Items for use by engineers
├ 2. G-LEVEL	
├ 3. B-LEVEL	
├ 4. ADDRESS L1	
├ 5. ADDRESS L2	
• • • • •	
├ 11. ADDRESS U4	
├ 12. STK MODE	
8. ETC (+)	
├ 1. BACKUP DATA	For transferring backup data (after replacement of the DIGITAL Assy)
├ 2. DIGITAL EEPROM	To clear data of the digital video
├ 3. PD INFO.	For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", using [➡], then hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, {ETC} is automatically selected.
├ 4. SD INFO.	
├ 5. HR-MTR INFO.	
├ 6. PM/B1-B5	
├ 7. P COUNT INFO.	
├ 8. MAX TEMP.	
9. RASTER MASK SETUP (+)	
├ 1. MASK OFF	For use while Raster Mask (full mask) is displayed. Use [🡅] or [🡇] to select the type of mask.
├ 2. RST MASK 01	
• • • • •	
├ 26. RST MASK 25	
10. PATTEN MASK SETUP (+)	
├ 1. MASK OFF	For use while Pattern Mask is displayed. Use [🡅] or [🡇] to select the type of mask.
├ 2. PTN MASK 01	
• • • • •	
├ 50. PTN MASK 49	
11. COMBI MASK SETUP (+)	
├ 1. MASK OFF	For use while Combination Mask is displayed. Use [🡅] or [🡇] to select the type of mask.
├ 2. CMB MASK 01	
• • • • •	
└ 18. CMB MASK 17	

3.3 PCB LOCATION

• This photo. is PDP-4280XD model.


SENSOR Assy
42 DIGITAL Assy
POWER SUPPLY Unit
42 SCAN B Assy
SIDE KEY Assy
42 SCAN A Assy
42 Y DRIVE Assy
MAIN Assy
42 X DRIVE Assy
SIDE IO Assy
XGA POWER SW Assy
42 ADDRESS Assy
42 ADDRESS Assy
42 ADDRESS Assy
42 ADDRESS Assy
TANSHI Assy
232C Assy
42IR (42RLS&IR) Assy
• Front view
• Rear view
42/60LED Assy
• Front view

Note:
The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
NSP		42 ADDRESS ASSY	AWV2451
NSP		42 SCAN A ASSY	AWW1266
		└ IC2801 - IC2806	SN755875PZT-P
NSP		42 SCAN B ASSY	AWW1267
		└ IC2901 - IC2906	SN755875PZT-P
		42 X DRIVE ASSY	AWV2452
		42 Y DRIVE ASSY	AWW1262
		XGA POWER SW ASSY	AWW1261
		42 DIGITAL ASSY	AWW1271
		SENSOR ASSY	AWW1272
⚠		MAIN ASSY (PDP-4280XA)	AWV2463
⚠		MAIN ASSY (PDP-4280XD)	AWV2462
⚠		MAIN ASSY (PDP-428XD)	AWV2461
		TANSHI ASSY (PDP-4280XA)	AWW1251
		TANSHI ASSY (PDP-4280XD)	AWW1249
		TANSHI ASSY (PDP-428XD)	AWW1247
		SIDE IO ASSY	AWW1253
		232C ASSY	AWW1254
		42/60LED ASSY	AWW1276
		42IR ASSY (PDP-4280XA, XD)	AWW1282
		42RLS&IR ASSY (PDP-428XD)	AWW1277
		SIDE KEY ASSY	AWW1286
⚠		POWER SUPPLY UNIT	AXY1157
		PDP SERVICE ASSY 428	AWU1276

3.4 CLEANING

Name	Part No.	Remarks
Cleaning liquid	GEM1004	Used to fan cleaning. Refer to “10.4 CHASSIS SECTION (1/2)”.
Cleaning paper	GED-008	

A

B

C

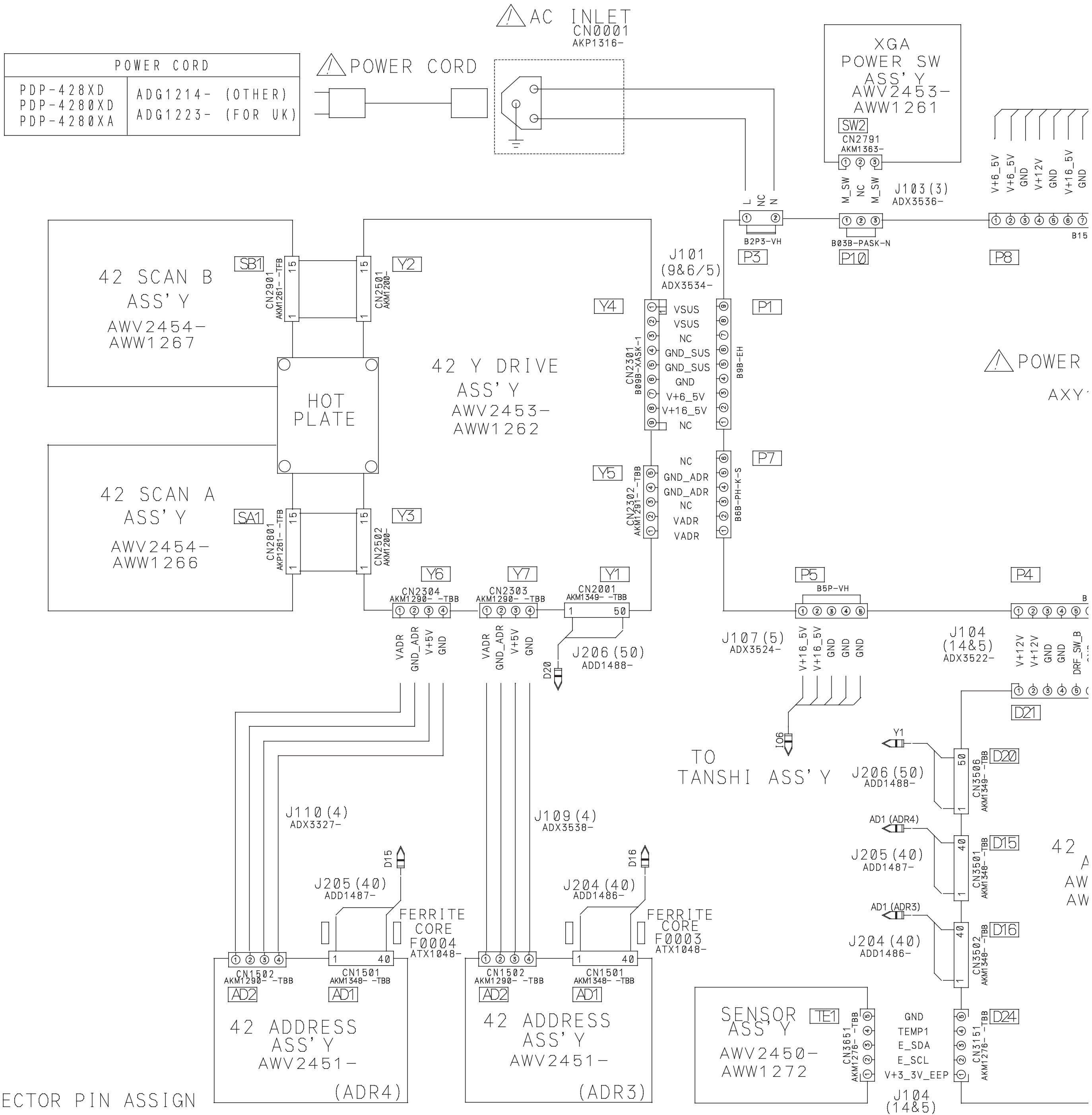
D

E

F

4. BLOCK DIAGRAM

4.1 OVERALL WIRING DIAGRAM (1/2)


POWER CORD
PDP-428XD
PDP-4280XD
PDP-4280XA
ADG1214- (OTHER)
ADG1223- (FOR UK)
POWER CORD
AC INLET
CN0001
AKP1316-
XGA POWER SW ASS'Y
AWV2453-
AWW1261
SW2
CN2791
AKM1363-
M_SW
NC
M_SW
J103(3)
ADX3536-
B03B-PASK-N
P10
L
NC
N
B2P3-VH
P3
V+6_5V
V+6_5V
GND
V+12V
GND
V+16_5V
GND
P8
42 SCAN B ASS'Y
AWV2454-
AWW1267
SB1
CN2901
AKM1261- -TFB
Y2
CN2501
AKM1200-
HOT PLATE
42 Y DRIVE ASS'Y
AWV2453-
AWW1262
J101
(9&6/5)
ADX3534-
Y4
CN2301
B09B-XASK-1
VSUS
VSUS
NC
GND_SUS
GND_SUS
GND
V+6_5V
V+16_5V
NC
B9B-EH
P1
POWER
Y5
CN2302
AKM1291- -TBB
NC
GND_ADR
GND_ADR
NC
VADR
VADR
B6B-PH-K-S
P7
42 SCAN A ASS'Y
AWV2454-
AWW1266
SA1
CN2801
AKP1261- -TFB
Y3
CN2502
AKM1200-
Y6
CN2304
AKM1290- -TBB
Y7
CN2303
AKM1290- -TBB
Y1
CN2001
AKM1349- -TBB
VADR
GND_ADR
V+5V
GND
D20
J206(50)
ADD1488-
P5
B5P-VH
J107(5)
ADX3524-
V+16_5V
V+16_5V
GND
GND
GND
I06
TO TANSHI ASS'Y
P4
J104
(14&5)
ADX3522-
V+12V
V+12V
GND
GND
DRF_SW_B
D21
Y1
J206(50)
ADD1488-
CN3506
AKM1349- -TBB
D20
AD1 (ADR4)
J205(40)
ADD1487-
CN3501
AKM1348- -TBB
D15
AD1 (ADR3)
J204(40)
ADD1486-
CN3502
AKM1348- -TBB
D16
42
J110(4)
ADX3327-
J109(4)
ADX3538-
D15
J205(40)
ADD1487-
FERRITE CORE
F0004
ATX1048-
D16
J204(40)
ADD1486-
FERRITE CORE
F0003
ATX1048-
CN1502
AKM1290- -TBB
CN1501
AKM1348- -TBB
AD2
AD1
42 ADDRESS ASS'Y
AWV2451-
(ADR4)
42 ADDRESS ASS'Y
AWV2451-
(ADR3)
SENSOR ASS'Y
AWV2450-
AWW1272
TE1
CN3651
AKM1276- -TBB
GND
TEMP1
E_SDA
E_SCL
V+3_3V_EEP
CN3151
AKM1276- -TBB
D24
J104
(14&5)
ADX3522-

CONNECTOR PIN ASSIGN

CN3501 D15 → CN1501 AD1
CN3502 D16 → CN1501 AD1
CN3503 D17 → CN1501 AD1
CN3504 D18 → CN1501 AD1

1→40. NC
2→39. ADR_PD
3→38. PSIZE
4→37. GND
5→36. V+8V
6→35. V+8V
7→34. GND
8→33. GND
9→32. NC
10→31. AN
11→30. AP
12→29. NC
13→28. GND
14→27. NC
15→26. BN
16→25. BP
17→24. NC
18→23. GND
19→22. NC
20→21. CN
21→20. CP
22→19. NC
23→18. GND
24→17. NC
25→16. CLKN
26→15. CLKP
27→14. NC
28→13. GND
29→12. NC
30→11. DN
31→10. DP
32→ 9. NC
33→ 8. GND
34→ 7. GND
35→ 6. V+3_3V_D
36→ 5. V+3_3V_D
37→ 4. GND
38→ 3. NC
39→ 2. LS2
40→ 1. GND

CN2502 Y3
↓
CN2801 SA1

1. VH
2. VH
3. NC
4. NC
5. GNDH
6. SI_R
7. SI_H
8. CLR
9. OC2
10. OC1
11. CLK
12. LE
13. GNDH
14. GNDH_RH
15. IC5V

CN2501 Y2
↓
CN2901 SB1

1. VH
2. VH
3. NC
4. NC
5. GNDH
6. SI_R
7. SI_L
8. CLR
9. OC2
10. OC1
11. CLK
12. LE
13. GNDH
14. GNDH_R
15. IC5V

CN3505 D19 → CN1001 X1

1→40. XCN_PD
2→39. NC
3→38. GND
4→37. XSUS_B
5→36. GND
6→35. XSUS_U
7→34. GND
8→33. XSUS_D
9→32. GND
10→31. XSUS_G
11→30. GND
12→29. XPRST
13→28. GND
14→27. XKOFS1
15→26. GND
16→25. XKOFS2
17→24. GND
18→23. XSOFT_D
19→22. GND
20→21. SUS_MUTE
21→20. GND
22→19. XKOFS1_ADJ
23→18. XKOFS2_ADJ
24→17. GND
25→16. XDRV_PD
26→15. XDD_PD
27→14. PSW2
28→13. GND
29→12. XRsv_2
30→11. XRsv_1
31→10. NC
32→ 9. NC
33→ 8. NC
34→ 7. NC
35→ 6. NC
36→ 5. NC
37→ 4. NC
38→ 3. NC
39→ 2. NC
40→ 1. XSUS_PD

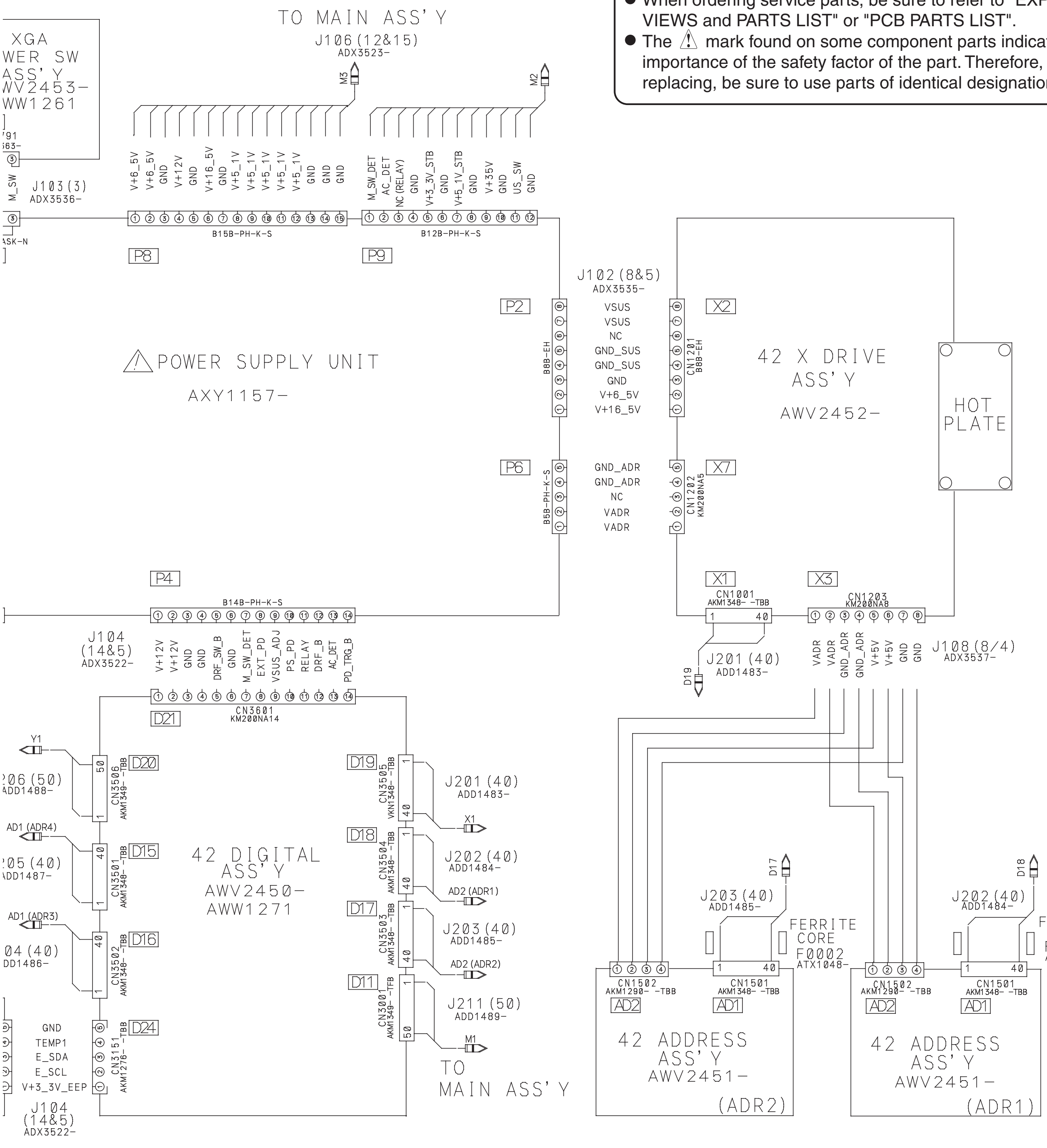
CN3506 D20 → CN2001 Y1

1→50. GND
2→49. SCN5V_PD
3→48. SI
4→47. GND
5→46. CLR
6→45. CLK
7→44. GND
8→43. LE
9→42. OC2
10→41. OC1
11→40. GND
12→39. YSUS_B
13→38. YSUS_U
14→37. GND
15→36. YSUS_D
16→35. YSUS_G
17→34. GND
18→33. YPR-U
19→32. SUS_MUTE
20→31. GND
21→30. YSUS_MSK_H
22→29. YSUS_MSK_L
23→28. GND
24→27. YKNOFS1
25→26. YKNOFS2
26→25. YKNOFS3
27→24. YKNOFS4
28→23. GND
29→22. YNOFS
30→21. YRST_D
31→20. YSOFT_G
32→19. YSOFT_D
33→18. GND
34→17. VOFS_ADJ
35→16. VYPRST_ADJ
36→15. GND
37→14. NC
38→13. VKNOFS1_2_ADJ
39→12. VKNOFS3_ADJ
40→11. VKNOFS4_ADJ
41→10. GND
42→ 9. YRsv1
43→ 8. YRsv2
44→ 7. YRsv3
45→ 6. GND
46→ 5. YDD_PD
47→ 4. YSUS_PD
48→ 3. SCAN_PD
49→ 2. YDRV_PD
50→ 1. PSW2

CN3001 D11 →

1→50. GND
2→49. LVDS_ON
3→48. REQ_MD
4→47. RXD_MD
5→46. TXD_MD
6→45. GND
7→44. GND
8→43. LVDS_E1+
9→42. LVDS_E1-
10→41. GND
11→40. LVDS_D1+
12→39. LVDS_D1-
13→38. GND
14→37. LVDS_CLK1+
15→36. LVDS_CLK1-
16→35. GND
17→34. LVDS_C1+
18→33. LVDS_C1-
19→32. GND
20→31. LVDS_B1+
21→30. LVDS_B1-
22→29. GND
23→28. LVDS_A1+
24→27. LVDS_A1-
25→26. GND

- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.


TO MAIN ASS'Y
J106 (12&15)
ADX3523-
M3
M2
XGA
WER SW
ASS'Y
WV2453-
WW1261
J103 (3)
ADX3536-
M_SW
ASK-N
V+6_5V
V+6_5V
GND
V+12V
GND
V+16_5V
GND
V+5_1V
V+5_1V
V+5_1V
V+5_1V
GND
GND
GND
M_SW_DET
AC_DET
NC (RELAY)
GND
V+3_3V_STB
GND
V+5_1V_STB
GND
V+35V
GND
US_SW
GND
B15B-PH-K-S
B12B-PH-K-S
P8
P9
J102 (8&5)
ADX3535-
P2
B8B-EH
VSUS
VSUS
NC
GND_SUS
GND_SUS
GND
V+6_5V
V+16_5V
CN1201
B8B-EH
X2
⚠ POWER SUPPLY UNIT
AXY1157-
42 X DRIVE
ASS'Y
AWV2452-
HOT
PLATE
P6
B5B-PH-K-S
GND_ADR
GND_ADR
NC
VADR
VADR
CN1202
KM200NA5
X7
P4
B14B-PH-K-S
X1
X3
CN1001
AKM1348- -TBB
CN1203
KM200NA8
J104
(14&5)
ADX3522-
V+12V
V+12V
GND
GND
DRF_SW_B
GND
M_SW_DET
EXT_PD
VSUS_ADJ
PS_PD
RELAY
DRF_B
AC_DET
PD_TRG_B
J201 (40)
ADD1483-
D19
VADR
VADR
GND_ADR
GND_ADR
V+5V
V+5V
GND
GND
J108 (8/4)
ADX3537-
CN3601
KM200NA14
D21
Y1
D20
CN3506
AKM1348- -TBB
06 (50)
ADD1488-
AD1 (ADR4)
D15
CN3501
AKM1348- -TBB
05 (40)
ADD1487-
AD1 (ADR3)
D16
CN3502
AKM1348- -TBB
04 (40)
DD1486-
42 DIGITAL
ASS'Y
AWV2450-
AWW1271
D19
CN3505
VKN1348- -TBB
J201 (40)
ADD1483-
X1
D18
CN3504
AKM1348- -TBB
J202 (40)
ADD1484-
AD2 (ADR1)
D17
CN3503
AKM1348- -TBB
J203 (40)
ADD1485-
AD2 (ADR2)
D11
CN3001
AKM1349- -TFB
J211 (50)
ADD1489-
M1
TO
MAIN ASS'Y
D24
CN3151
AKM1276- -TBB
GND
TEMP1
E_SDA
E_SCL
V+3_3V_EEP
J104
(14&5)
ADX3522-
D17
J203 (40)
ADD1485-
FERRITE
CORE
F0002
ATX1048-
CN1502
AKM1290- -TBB
CN1501
AKM1348- -TBB
AD2
AD1
42 ADDRESS
ASS'Y
AWV2451-
(ADR2)
D18
J202 (40)
ADD1484-
FERRITE
CORE
F0001
ATX1048-
CN1502
AKM1290- -TBB
CN1501
AKM1348- -TBB
AD2
AD1
42 ADDRESS
ASS'Y
AWV2451-
(ADR1)

01 Y1

NOFS3
NOFS4
ND
NOFS
RST_D
OFT_G
OFT_D
ND
FS_ADJ
PRST_ADJ
ND
NOFS1_2_ADJ
NOFS3_ADJ
NOFS4_ADJ
ND
sv1
sv2
sv3
ND
D_PD
US_PD
AN_PD
RV_PD
W2

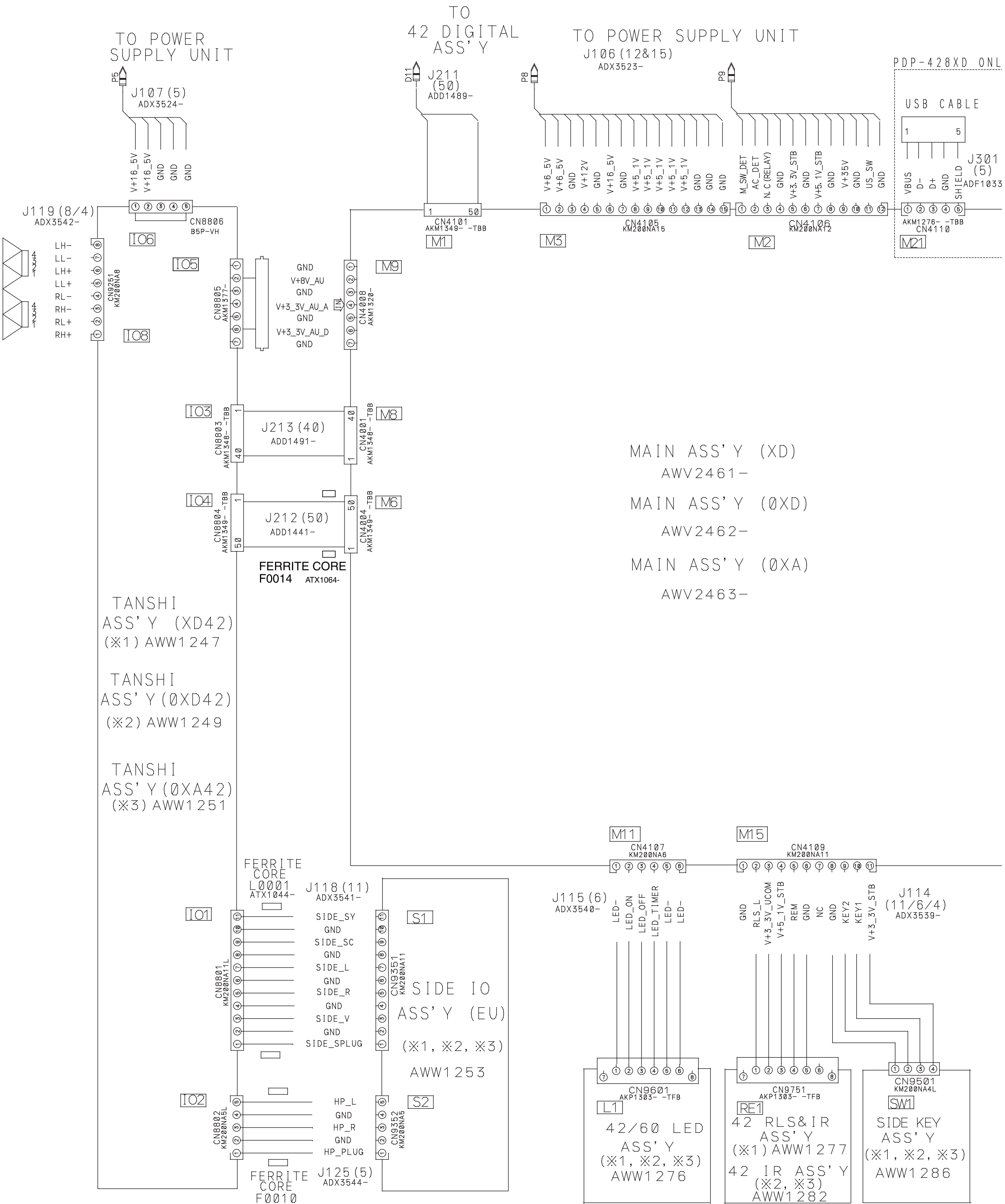
CN3001 D11 → CN4101 M1

1→50. GND	26→25. GND
2→49. LVDS_ON	27→24. LVDS_E0+
3→48. REQ_MD	28→23. LVDS_E0-
4→47. RXD_MD	29→22. GND
5→46. TXD_MD	30→21. LVDS_D0+
6→45. GND	31→20. LVDS_D0-
7→44. GND	32→19. GND
8→43. LVDS_E1+	33→18. LVDS_CLK0+
9→42. LVDS_E1-	34→17. LVDS_CLK0-
10→41. GND	35→16. GND
11→40. LVDS_D1+	36→15. LVDS_C0+
12→39. LVDS_D1-	37→14. LVDS_C0-
13→38. GND	38→13. GND
14→37. LVDS_CLK1+	39→12. LVDS_B0+
15→36. LVDS_CLK1-	40→11. LVDS_B0-
16→35. GND	41→10. GND
17→34. LVDS_C1+	42→ 9. LVDS_A0+
18→33. LVDS_C1-	43→ 8. LVDS_A0-
19→32. GND	44→ 7. GND
20→31. LVDS_B1+	45→ 6. GND
21→30. LVDS_B1-	46→ 5. MSEL
22→29. GND	47→ 4. RELAY2
23→28. LVDS_A1+	48→ 3. V+3_3V_UCOM
24→27. LVDS_A1-	49→ 2. MODE
25→26. GND	50→ 1. GND

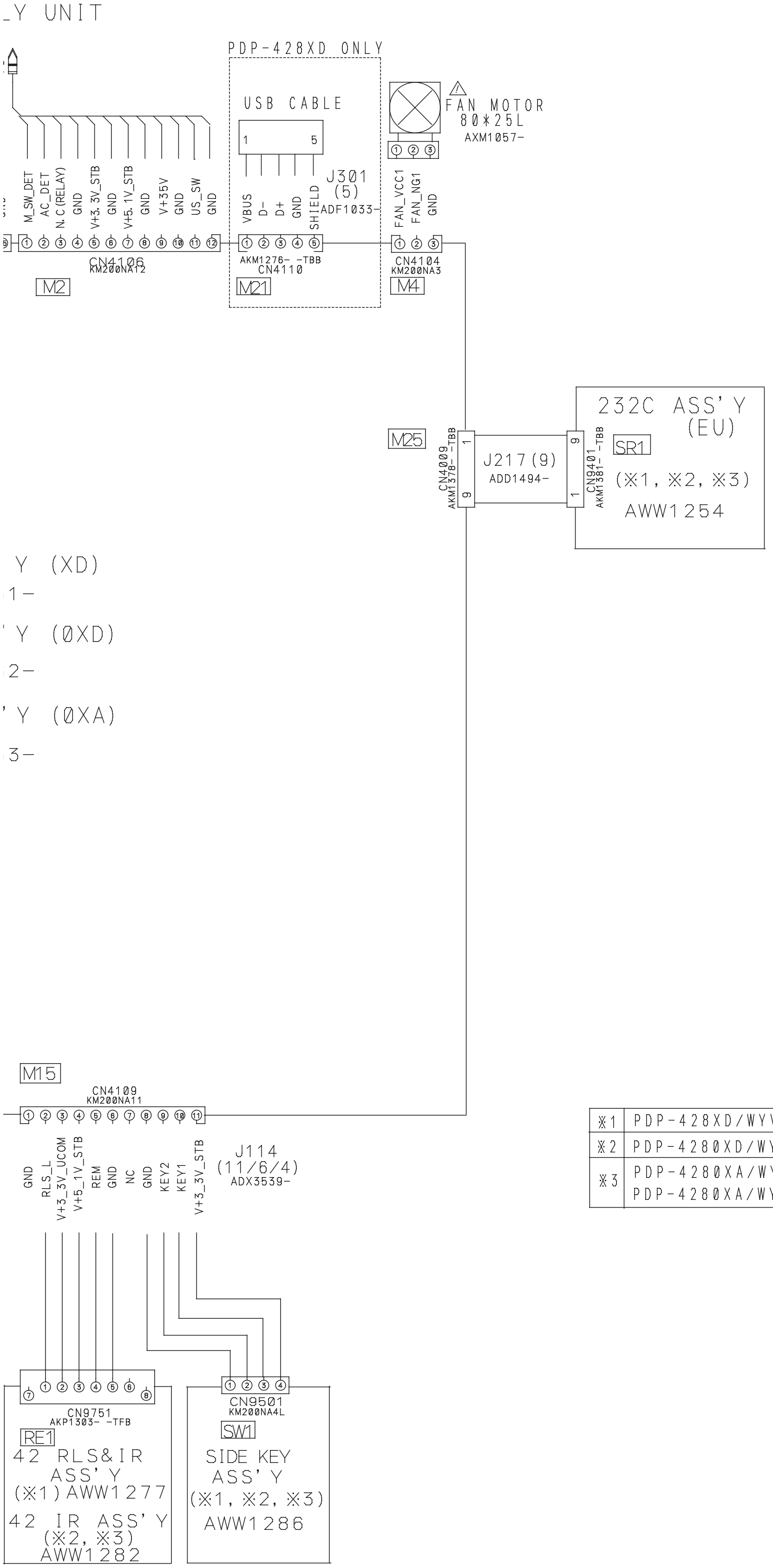
The ⚠ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.

OVERALL DIAGRAM
PDP-428XD
PDP-4280XD
PDP-4280XA

4.2 OVERALL WIRING DIAGRAM (2/2)


TO POWER SUPPLY UNIT
P5
J107(5)
ADX3524-
V+16_5V
V+16_5V
GND
GND
GND
CN8806
B5P-VH
J119(8/4)
ADX3542-
LH-
LL-
LH+
LL+
RL-
RH-
RL+
RH+
CN9251
KM200NA8
IO6
IO5
IO8
CN8805
AKM1377-
GND
V+8V_AU
GND
V+3_3V_AU_A
GND
V+3_3V_AU_D
GND
J117
CN4008
AKM1320-
M9
TO 42 DIGITAL ASS'Y
D11
J211
(50)
ADD1489-
CN4101
AKM1349- -TBB
M1
TO POWER SUPPLY UNIT
J106(12&15)
ADX3523-
P8
P9
V+6_5V
V+6_5V
GND
V+12V
GND
V+16_5V
GND
V+5_1V
V+5_1V
V+5_1V
V+5_1V
V+5_1V
GND
GND
GND
CN4105
KM200NA15
M3
M_SW_DET
AC_DET
N.C(RELAY)
GND
V+3.3V_STB
GND
V+5.1V_STB
GND
V+35V
GND
US_SW
GND
CN4106
KM200NA12
M2
PDP-428XD ONL
USB CABLE
J301
(5)
ADF1033
VBUS
D-
D+
GND
SHIELD
AKM1276- -TBB
CN4110
M21
IO3
CN8803
AKM1348- -TBB
J213(40)
ADD1491-
CN4001
AKM1348- -TBB
M8
IO4
CN8804
AKM1349- -TBB
J212(50)
ADD1441-
CN4004
AKM1349- -TBB
M6
FERRITE CORE
F0014 ATX1064-
MAIN ASS'Y (XD)
AWV2461-
MAIN ASS'Y (0XD)
AWV2462-
MAIN ASS'Y (0XA)
AWV2463-
TANSHI ASS'Y (XD42)
(※1) AWW1247
TANSHI ASS'Y(0XD42)
(※2) AWW1249
TANSHI ASS'Y(0XA42)
(※3) AWW1251
FERRITE CORE
L0001
ATX1044-
J118(11)
ADX3541-
IO1
CN8801
KM200NA11L
SIDE_SY
GND
SIDE_SC
GND
SIDE_L
GND
SIDE_R
GND
SIDE_V
GND
SIDE_SPLUG
S1
CN9351
KM200NA11
SIDE IO ASS'Y (EU)
(※1, ※2, ※3)
AWW1253
IO2
CN8802
KM200NA5L
HP_L
GND
HP_R
GND
HP_PLUG
S2
CN9352
KM200NA5
FERRITE CORE
F0010
ATX1060-
J125(5)
ADX3544-
M11
CN4107
KM200NA6
M15
CN4109
KM200NA11
J115(6)
ADX3540-
LED-
LED_ON
LED_OFF
LED_TIMER
LED-
LED-
GND
RLS_L
V+3_3V_UCOM
V+5_1V_STB
REM
GND
NC
GND
KEY2
KEY1
V+3_3V_STB
J114
(11/6/4)
ADX3539-
CN9601
AKP1303- -TFB
L1
42/60 LED ASS'Y
(※1, ※2, ※3)
AWW1276
CN9751
AKP1303- -TFB
RE1
42 RLS&IR ASS'Y
(※1) AWW1277
42 IR ASS'Y
(※2, ※3)
AWW1282
CN9501
KM200NA4L
SW1
SIDE KEY ASS'Y
(※1, ※2, ※3)
AWW1286

The ⚠ mark found on some component parts
should be replaced with same parts
(safety regulation authorized) of identical



-Y UNIT
PDP-428XD ONLY
USB CABLE
1
5
J301
(5)
ADF1033-
FAN MOTOR
80*25L
AXM1057-
M_SW_DET
AC_DET
N.C(RELAY)
GND
V+3.3V_STB
GND
V+5.1V_STB
GND
V+35V
GND
US_SW
GND
VBUS
D-
D+
GND
SHIELD
FAN_VCC1
FAN_NG1
GND
CN4106
KM200NA12
M2
AKM1276- -TBB
CN4110
M21
CN4104
KM200NA3
M4
M25
CN4009
AKM1378- -TBB
J217(9)
ADD1494-
CN9401
AKM1381- -TBB
232C ASS'Y
(EU)
SR1
(※1, ※2, ※3)
AWW1254
Y (XD)
1-
'Y (0XD)
2-
'Y (0XA)
3-
M15
CN4109
KM200NA11
GND
RLS_L
V+3_3V_UCOM
V+5_1V_STB
REM
GND
NC
GND
KEY2
KEY1
V+3_3V_STB
J114
(11/6/4)
ADX3539-
CN9751
AKP1303- -TFB
RE1
42 RLS&IR
ASS'Y
(※1)AWW1277
42 IR ASS'Y
(※2, ※3)
AWW1282
CN9501
KM200NA4L
SW1
SIDE KEY
ASS'Y
(※1, ※2, ※3)
AWW1286

ark found on some component parts
replaced with same parts
egulation authorized) of identical designation.

※1	PDP-428XD/WYVIXK5	AWV2480-
※2	PDP-4280XD/WYVIXK5	AWV2482-
※3	PDP-4280XA/WYVIXK5 PDP-4280XA/WYV5	AWV2484-

CONNECTOR PIN ASSIGN

CN4004 M6 → CN8804 IO4

1→50. GND
2→49. TEMP2
3→48. V+3_3V_UCOM
4→47. SIDE_SPLUG
5→46. SIDE_S2
6→45. SIDE_V
7→44. GND
8→43. SIDE_SY
9→42. GND
10→41. SIDE_SC
11→40. GND
12→39. INPUT1_V
13→38. GND
14→37. SCART1_OUT_V
15→36. GND
16→35. SCART2_OUT_V
17→34. SCART3_OUT_V
18→33. GND
19→32. INPUT2_VSY
20→31. GND
21→30. INPUT2_SC
22→29. GND
23→28. INPUT3_VSY
24→27. GND
25→26. INPUT3_SC
26→25. GND
27→24. INPUT2_Y
28→23. GND
29→22. INPUT2_PB
30→21. GND
31→20. INPUT2_PR
32→19. GND
33→18. INPUT1_G
34→17. GND
35→16. INPUT1_B
36→15. GND
37→14. INPUT1_R
38→13. GND
39→12. INPUT3_G
40→11. GND
41→10. INPUT3_B
42→ 9. GND
43→ 8. INPUT3_R
44→ 7. GND
45→ 6. AIR_R
46→ 5. GND
47→ 4. AIR_L
48→ 3. GND
49→ 2. AIR_SIF
50→ 1. GND

CN4001 M8 → CN8803 IO3

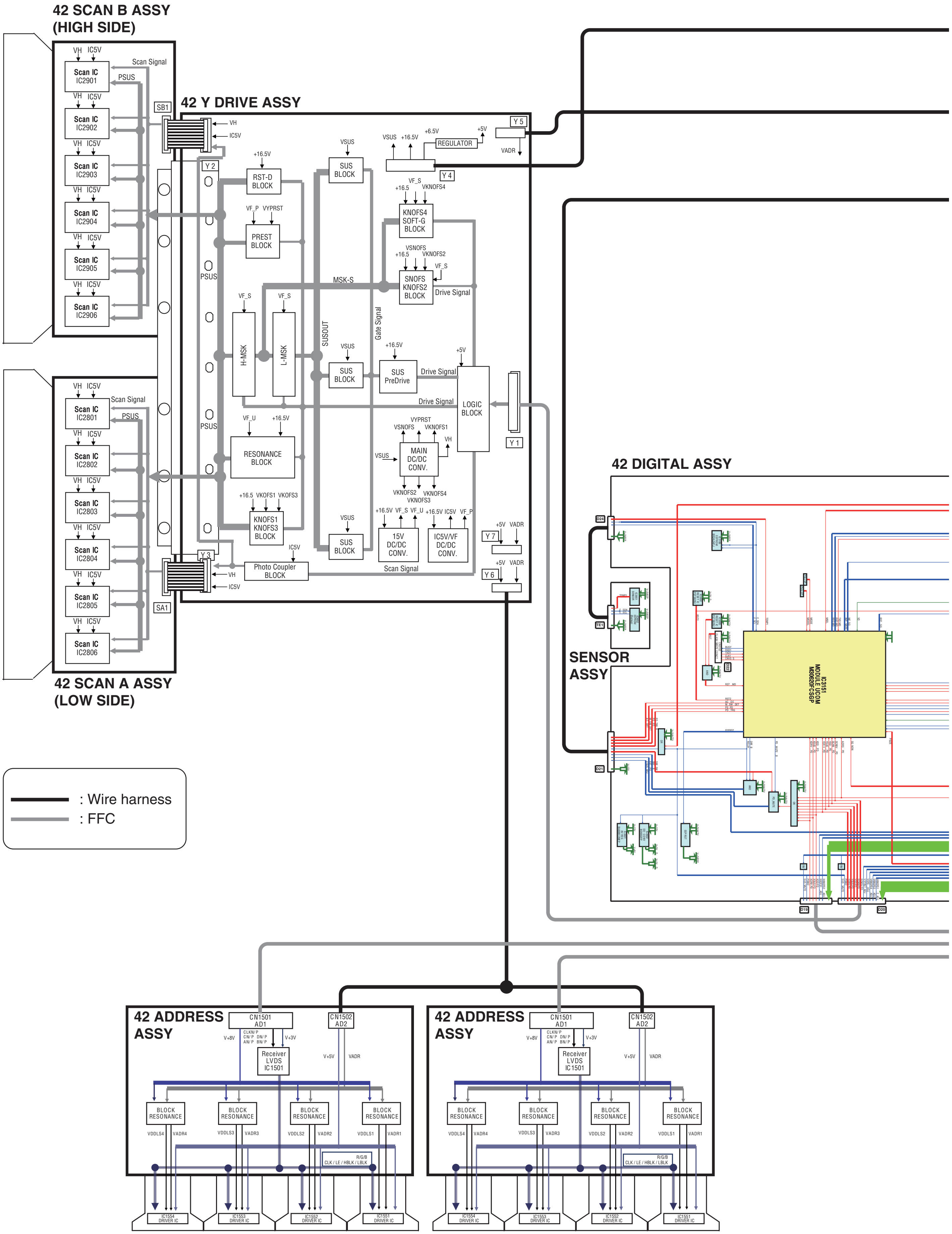
1→40. V+5V_A
2→39. NC
3→38. V+3_3V_STB
4→37. NC
5→36. GND
6→35. AIR_SIF
7→34. GND
8→33. RAPID_SW3
9→32. RAPID_SW1
10→31. In2_CompY_PLUG
11→30. SLOW_SW3
12→29. SLOW_SW2
13→28. SLOW_SW1
14→27. HP_PLUG
15→26. AC_SC3_MUTE
16→25. AC_SC2_MUTE
17→24. AC_SC1_MUTE
18→23. AC_AM_MUTE
19→22. AC_HP_MUTE
20→21. LINK_IO3
21→20. LINK_IO2
22→19. GND
23→18. SPDIF_EMMA(DTB)
24→17. GND
25→16. I2S_SDATA_HDMI
26→15. I2S_LRCLK_HDMI
27→14. I2S_BCLK_HDMI
28→13. GND
29→12. I2S_BCLK_EMMA(DTB)
30→11. I2S_LRCLK_EMMA(DTB)
31→10. I2S_SDATA_EMMA(DTB)
32→ 9. GND
33→ 8. SCL_AV
34→ 7. SDA_AV
35→ 6. AC_A_MUTE
36→ 5. RST_MSP
37→ 4. OTW
38→ 3. A_NG_B
39→ 2. IO_DET
40→ 1. GND

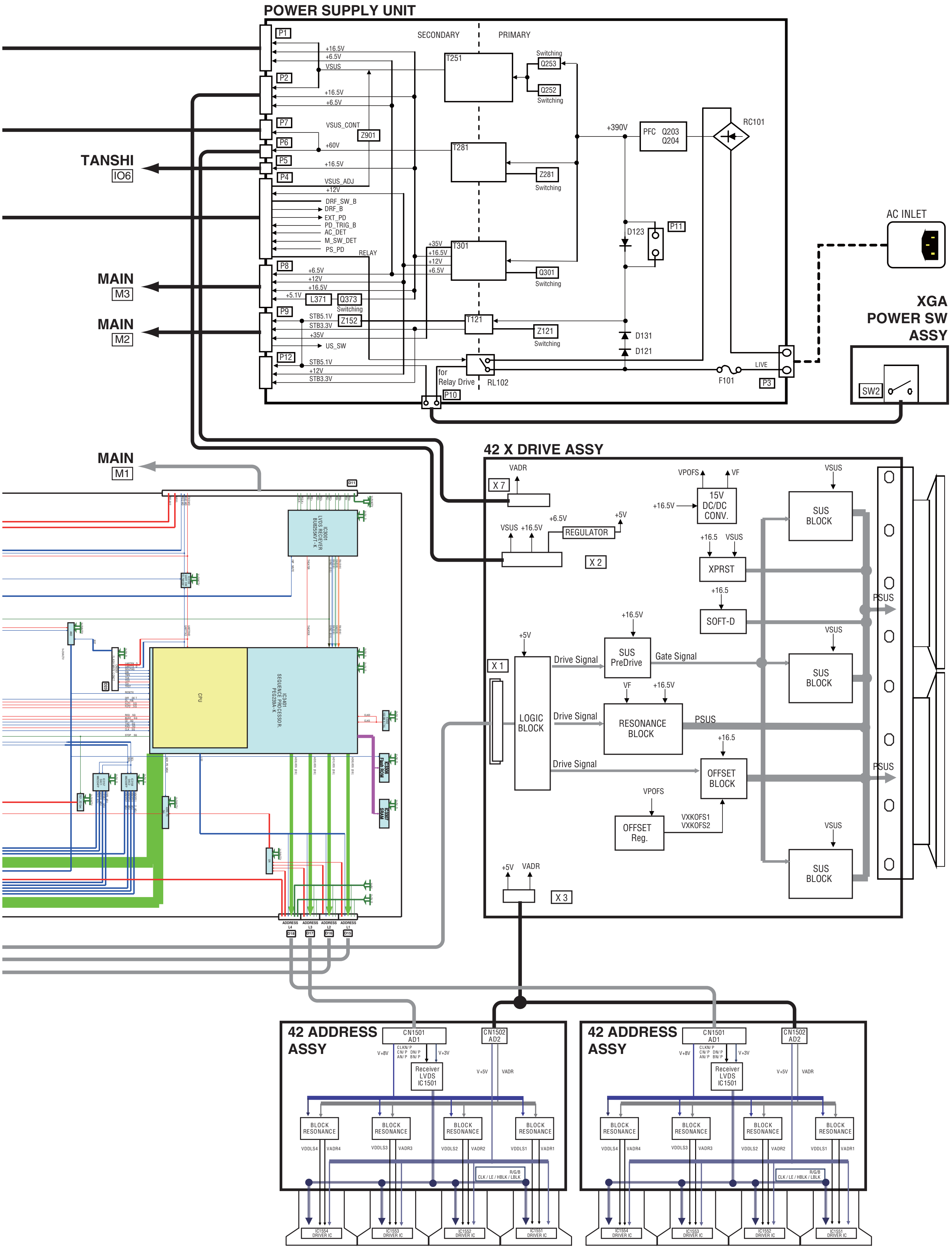
CN4009 M25
→ CN9401 SR1

1→9. GND
2→8. SR_OUT
3→7. RXD_SR
4→6. TXD_SR
5→5. 232C_CH2
6→4. 232C_CH3
7→3. 232C_CH4
8→2. 232C_CH8
9→1. GND

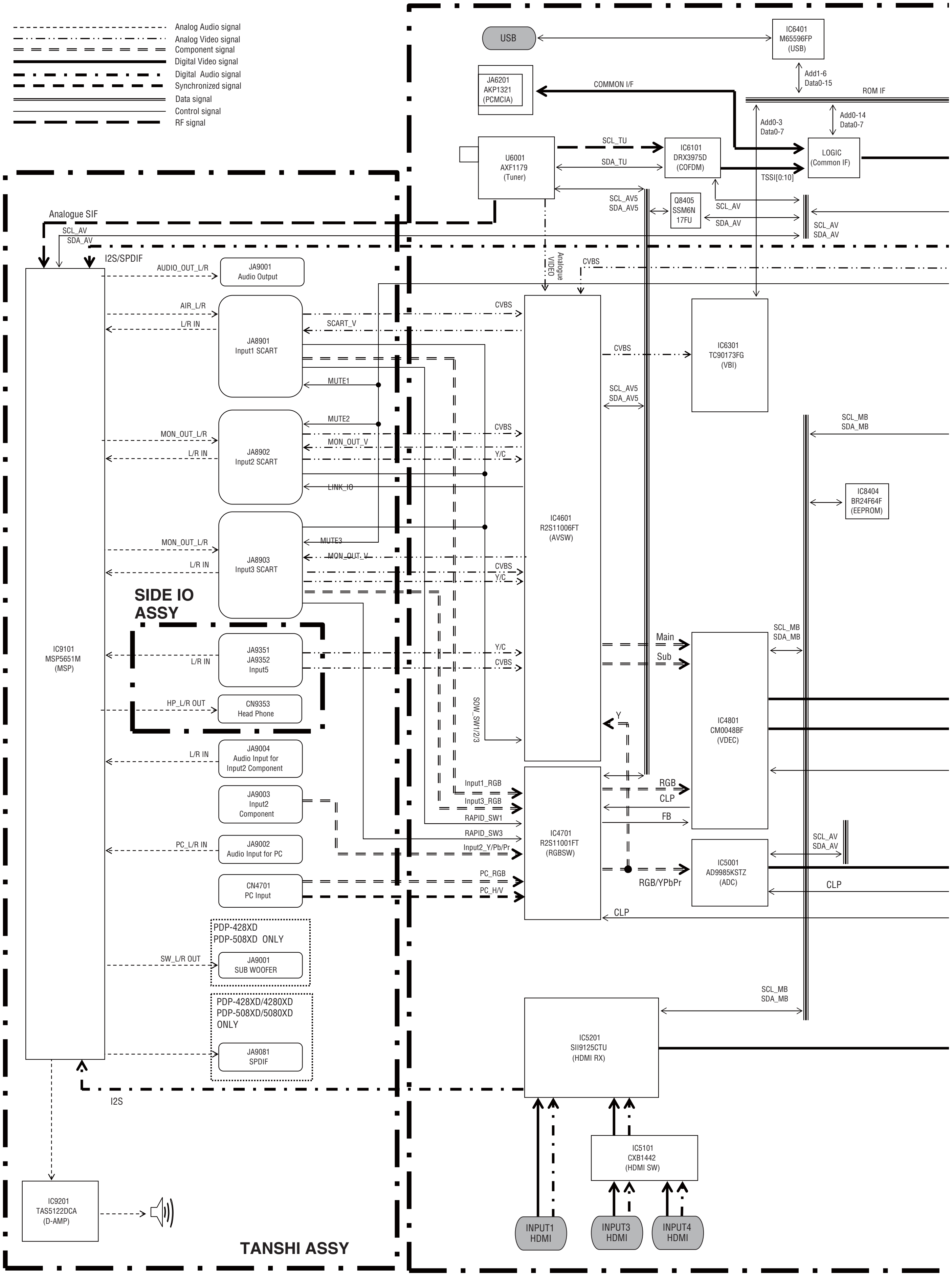
OVERALL DIAGRAM
PDP-428XD
PDP-4280XD
PDP-4280XA

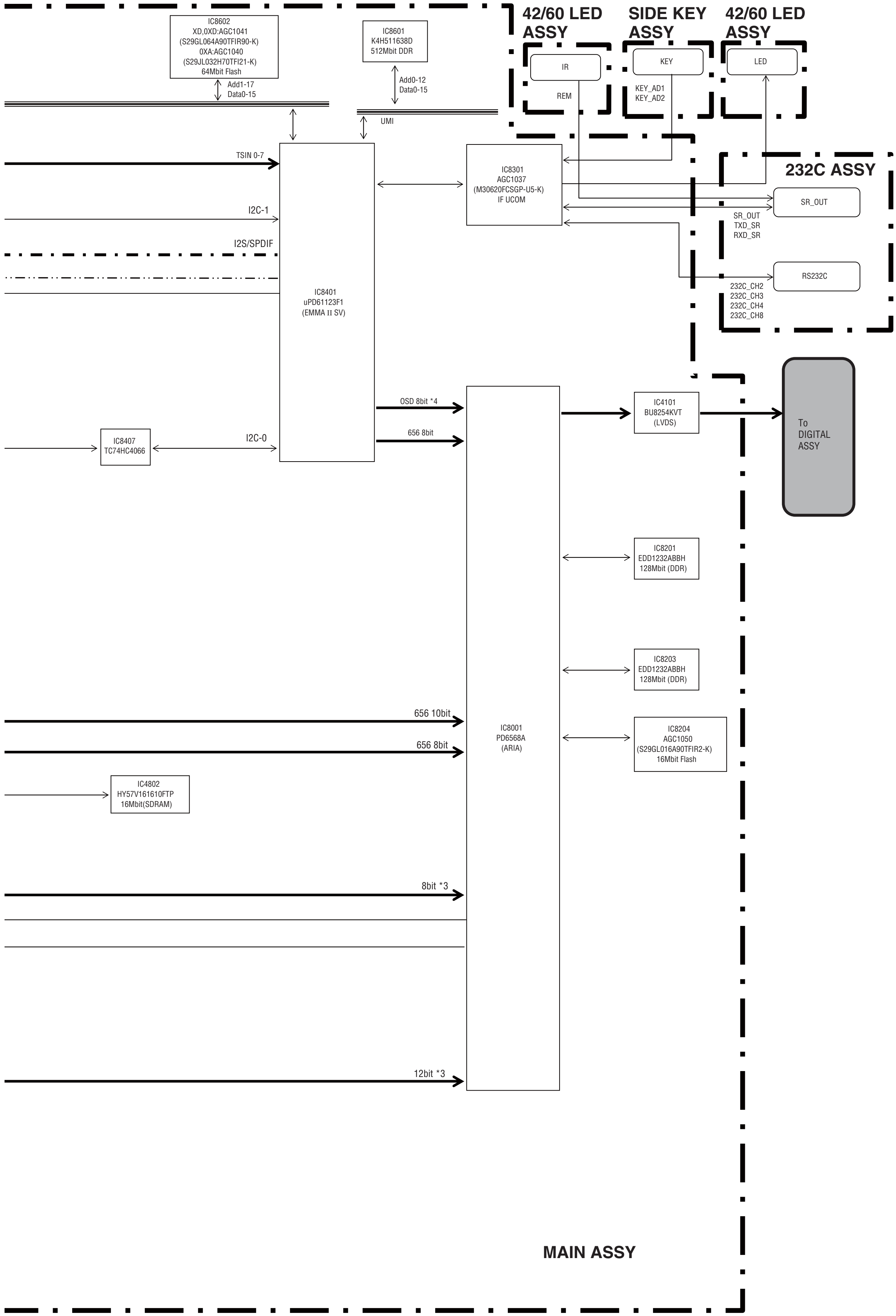
4.3 OVERALL BLOCK DIAGRAM (1/2)


A
B
C
D
E
F
42 SCAN B ASSY
(HIGH SIDE)
VH IC5V
Scan IC
IC2901
Scan Signal
PSUS
Scan IC
IC2902
Scan IC
IC2903
Scan IC
IC2904
Scan IC
IC2905
Scan IC
IC2906
SB1
42 Y DRIVE ASSY
VH
IC5V
Y 2
+16.5V
RST-D
BLOCK
VF_P VYPRST
PREST
BLOCK
PSUS
VF_S
H-MSK
L-MSK
VSUS
SUS
BLOCK
MSK-S
SUSOUT
Gate Signal
VSUS +16.5V +6.5V +5V
REGULATOR
VADR
Y 5
Y 4
VF_S
+16.5 VKNOFS4
KNOFS4
SOFT-G
BLOCK
VSNOFS
+16.5 VKNOFS2
VF_S
SNOFS
KNOFS2
BLOCK
Drive Signal
+16.5V
SUS
PreDrive
+5V
LOGIC
BLOCK
Y 1
VF_U +16.5V
RESONANCE
BLOCK
VYPRST
VSNOFS VKNOFS1
VH
MAIN
DC/DC
CONV.
VKNOFS2 VKNOFS4
VKNOFS3
+16.5 VKOFS1 VKOFS3
KNOFS1
KNOFS3
BLOCK
+16.5V VF_S VF_U +16.5V IC5V VF_P
15V
DC/DC
CONV.
IC5V/VF
DC/DC
CONV.
+5V VADR
Y 7
Y 6
IC5V
Photo Coupler
BLOCK
Scan Signal
Y 3
SA1
42 SCAN A ASSY
(LOW SIDE)
Scan IC
IC2801
Scan IC
IC2802
Scan IC
IC2803
Scan IC
IC2804
Scan IC
IC2805
Scan IC
IC2806
42 DIGITAL ASSY
SENSOR
ASSY
D26
TE1
D21
D19
D20
IC3151
MODULE UCOM
M30620FCSGP
42 ADDRESS
ASSY
CN1501
AD1
CN1502
AD2
V+8V
CLKN/P
CN/P DN/P
AN/P BN/P
V+3V
Receiver
LVDS
IC1501
V+5V
VADR
BLOCK
RESONANCE
VDDLS4 VADR4
VDDLS3 VADR3
VDDLS2 VADR2
VDDLS1 VADR1
R/G/B
CLK / LE / HBLK / LBLK
IC1554
DRIVER IC
IC1553
DRIVER IC
IC1552
DRIVER IC
IC1551
DRIVER IC
: Wire harness
: FFC


POWER SUPPLY UNIT
SECONDARY
PRIMARY
P1
+16.5V
+6.5V
VSUS
P2
+16.5V
+6.5V
P7
VSUS_CONT
Z901
P6
+60V
P5
+16.5V
P4
VSUS_ADJ
+12V
DRF_SW_B
DRF_B
EXT_PD
PD_TRIG_B
AC_DET
M_SW_DET
PS_PD
RELAY
P8
+6.5V
+12V
+16.5V
+5.1V
L371
Q373
Switching
P9
STB5.1V
STB3.3V
Z152
+35V
US_SW
P12
STB5.1V
+12V
STB3.3V
T251
Switching
Q253
Q252
Switching
T281
Z281
Switching
+35V
+16.5V
+12V
+6.5V
T301
Q301
Switching
T121
Z121
Switching
for
Relay Drive
P10
RL102
+390V
PFC Q203
Q204
RC101
D123
P11
D131
D121
F101
LIVE
P3
AC INLET
XGA
POWER SW
ASSY
SW2
TANSHI
IO6
MAIN
M3
MAIN
M2
MAIN
M1
D11
IC3301
LVDS RECEIVER
BU8255KVT-K
CPU
IC3401
SEQUENCE PROCESSOR
PE0298A-K
IC3306
FLASH ROM
IC3307
SRAM
ADDRESS
L4
ADDRESS
L3
ADDRESS
L2
ADDRESS
L1
D18
D17
D16
D15
42 X DRIVE ASSY
VADR
X 7
VPOFS
VF
VSUS
+16.5V
15V
DC/DC
CONV.
SUS
BLOCK
+6.5V
+5V
VSUS +16.5V
REGULATOR
X 2
+16.5
VSUS
XPRST
+16.5
SOFT-D
PSUS
+16.5V
VSUS
+5V
X 1
LOGIC
BLOCK
Drive Signal
SUS
PreDrive
Gate Signal
SUS
BLOCK
VF
+16.5V
Drive Signal
RESONANCE
BLOCK
PSUS
+16.5
Drive Signal
OFFSET
BLOCK
PSUS
VPOFS
OFFSET
Reg.
VXKOFS1
VXKOFS2
VSUS
SUS
BLOCK
+5V
VADR
X 3
42 ADDRESS
ASSY
CN1501
AD1
CN1502
AD2
V+8V
CLKN/P
CN/P DN/P
AN/P BN/P
V+3V
Receiver
LVDS
IC1501
V+5V
VADR
BLOCK
RESONANCE
BLOCK
RESONANCE
BLOCK
RESONANCE
BLOCK
RESONANCE
VDDLS4
VADR4
VDDLS3
VADR3
VDDLS2
VADR2
VDDLS1
VADR1
R/G/B
CLK / LE / HBLK / LBLK
IC1554
DRIVER IC
IC1553
DRIVER IC
IC1552
DRIVER IC
IC1551
DRIVER IC
42 ADDRESS
ASSY
CN1501
AD1
CN1502
AD2
V+8V
CLKN/P
CN/P DN/P
AN/P BN/P
V+3V
Receiver
LVDS
IC1501
V+5V
VADR
BLOCK
RESONANCE
BLOCK
RESONANCE
BLOCK
RESONANCE
BLOCK
RESONANCE
VDDLS4
VADR4
VDDLS3
VADR3
VDDLS2
VADR2
VDDLS1
VADR1
R/G/B
CLK / LE / HBLK / LBLK
IC1554
DRIVER IC
IC1553
DRIVER IC
IC1552
DRIVER IC
IC1551
DRIVER IC

4.4 OVERALL BLOCK DIAGRAM (2/2)

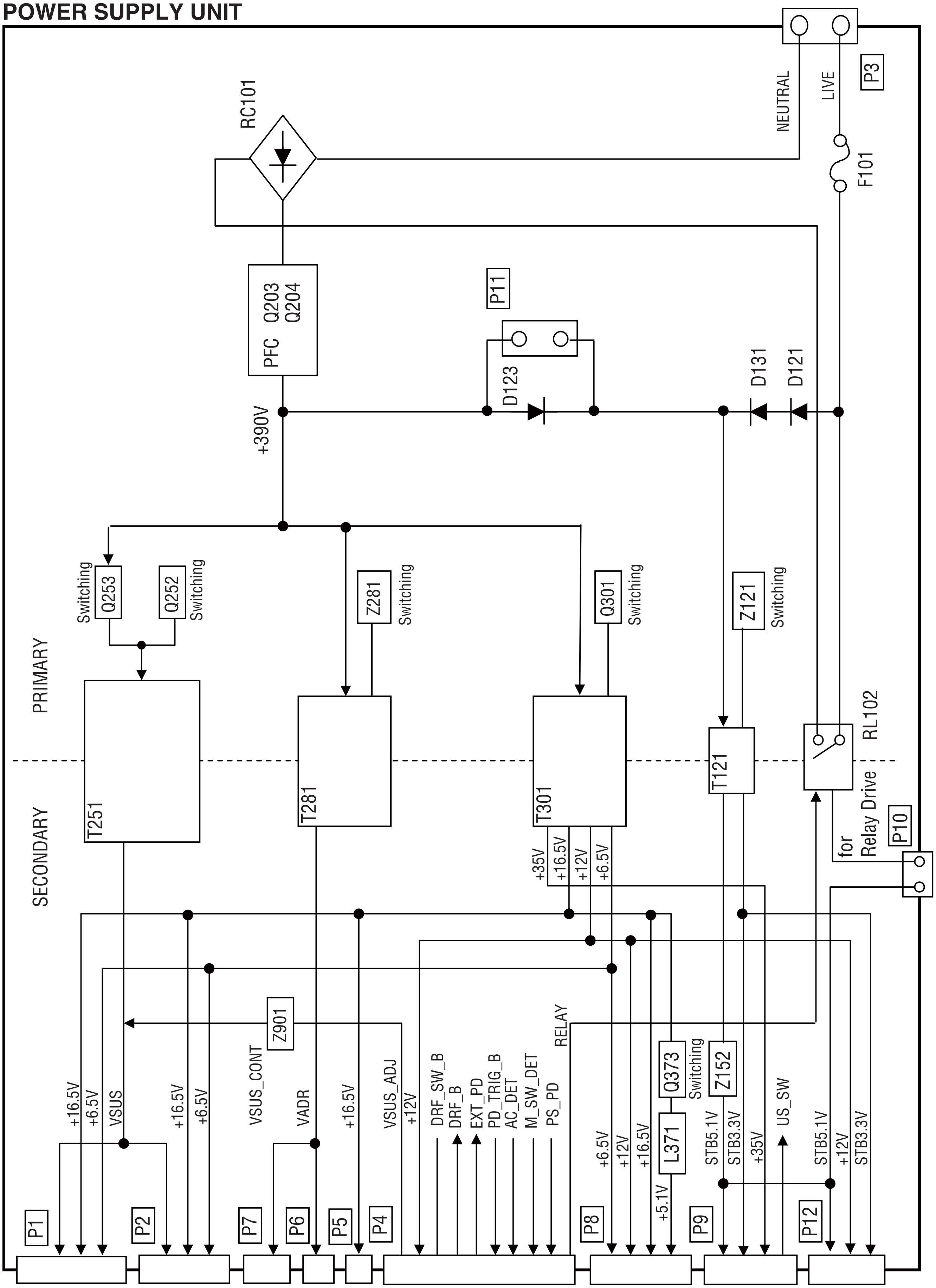

A
B
C
D
E
F
Analog Audio signal
Analog Video signal
Component signal
Digital Video signal
Digital Audio signal
Synchronized signal
Data signal
Control signal
RF signal
USB
IC6401
M65596FP
(USB)
Add1-6
Data0-15
ROM IF
JA6201
AKP1321
(PCMCIA)
COMMON I/F
Add0-3
Data0-7
Add0-14
Data0-7
U6001
AXF1179
(Tuner)
SCL_TU
SDA_TU
IC6101
DRX3975D
(COFDM)
LOGIC
(Common IF)
TSSI[0:10]
SCL_AV5
SDA_AV5
Q8405
SSM6N
17FU
SCL_AV
SDA_AV
SCL_AV
SDA_AV
Analogue SIF
SCL_AV
SDA_AV
I2S/SPDIF
Analogue
VIDEO
CVBS
AUDIO_OUT_L/R
JA9001
Audio Output
AIR_L/R
L/R IN
JA8901
Input1 SCART
CVBS
SCART_V
MUTE1
CVBS
IC6301
TC90173FG
(VBI)
SCL_AV5
SDA_AV5
MUTE2
MON_OUT_L/R
L/R IN
JA8902
Input2 SCART
CVBS
MON_OUT_V
Y/C
LINK_IO
SCL_MB
SDA_MB
IC8404
BR24F64F
(EEPROM)
IC4601
R2S11006FT
(AVSW)
MON_OUT_L/R
L/R IN
JA8903
Input3 SCART
MUTE3
MON_OUT_V
CVBS
Y/C
SIDE IO
ASSY
IC9101
MSP5651M
(MSP)
L/R IN
JA9351
JA9352
Input5
Y/C
CVBS
Main
Sub
SCL_MB
SDA_MB
HP_L/R OUT
CN9353
Head Phone
SOW_SW1/2/3
IC4801
CM0048BF
(VDEC)
Y
L/R IN
JA9004
Audio Input for
Input2 Component
JA9003
Input2
Component
Input1_RGB
Input3_RGB
RAPID_SW1
RAPID_SW3
Input2_Y/Pb/Pr
RGB
CLP
FB
IC4701
R2S11001FT
(RGBSW)
PC_L/R IN
JA9002
Audio Input for PC
SCL_AV
SDA_AV
IC5001
AD9985KSTZ
(ADC)
CN4701
PC Input
PC_RGB
PC_H/V
RGB/YPbPr
CLP
CLP
PDP-428XD
PDP-508XD ONLY
SW_L/R OUT
JA9001
SUB WOOFER
PDP-428XD/4280XD
PDP-508XD/5080XD
ONLY
SCL_MB
SDA_MB
IC5201
SII9125CTU
(HDMI RX)
JA9081
SPDIF
I2S
IC5101
CXB1442
(HDMI SW)
IC9201
TAS5122DCA
(D-AMP)
INPUT1
HDMI
INPUT3
HDMI
INPUT4
HDMI
TANSHI ASSY


IC8602
XD,0XD:AGC1041
(S29GL064A90TFIR90-K)
0XA:AGC1040
(S29JL032H70TFI21-K)
64Mbit Flash
Add1-17
Data0-15
IC8601
K4H511638D
512Mbit DDR
Add0-12
Data0-15
UMI
42/60 LED ASSY
SIDE KEY ASSY
42/60 LED ASSY
IR
REM
KEY
KEY_AD1
KEY_AD2
LED
TSIN 0-7
IC8301
AGC1037
(M30620FCSGP-U5-K)
IF UCOM
232C ASSY
SR_OUT
SR_OUT
TXD_SR
RXD_SR
RS232C
232C_CH2
232C_CH3
232C_CH4
232C_CH8
I2C-1
I2S/SPDIF
IC8401
uPD61123F1
(EMMA II SV)
OSD 8bit *4
656 8bit
IC4101
BU8254KVT
(LVDS)
To
DIGITAL
ASSY
IC8407
TC74HC4066
I2C-0
IC8201
EDD1232ABBH
128Mbit (DDR)
IC8203
EDD1232ABBH
128Mbit (DDR)
656 10bit
656 8bit
IC8001
PD6568A
(ARIA)
IC8204
AGC1050
(S29GL016A90TFIR2-K)
16Mbit Flash
IC4802
HY57V161610FTP
16Mbit(SDRAM)
8bit *3
12bit *3
MAIN ASSY

4.5 POWER SUPPLY UNIT

A

POWER SUPPLY UNIT


P3
NEUTRAL
LIVE
F101
RC101
PFC Q203 Q204
P11
D123
D131
D121
+390V
Switching
Q253
Q252
Switching
Z281
Switching
Q301
Switching
Z121
Switching
PRIMARY
SECONDARY
T251
T281
T301
T121
RL102
for Relay Drive
P10
+35V
+16.5V
+12V
+6.5V
Z901
RELAY
Q373
Switching
Z152
L371
+16.5V
+6.5V
VSUS
+16.5V
+6.5V
VSUS_CONT
VADR
+16.5V
VSUS_ADJ
+12V
DRF_SW_B
DRF_B
EXT_PD
PD_TRIG_B
AC_DET
M_SW_DET
PS_PD
+6.5V
+12V
+16.5V
+5.1V
STB5.1V
STB3.3V
+35V
US_SW
STB5.1V
+12V
STB3.3V
P1
P2
P7
P6
P5
P4
P8
P9
P12

B

C

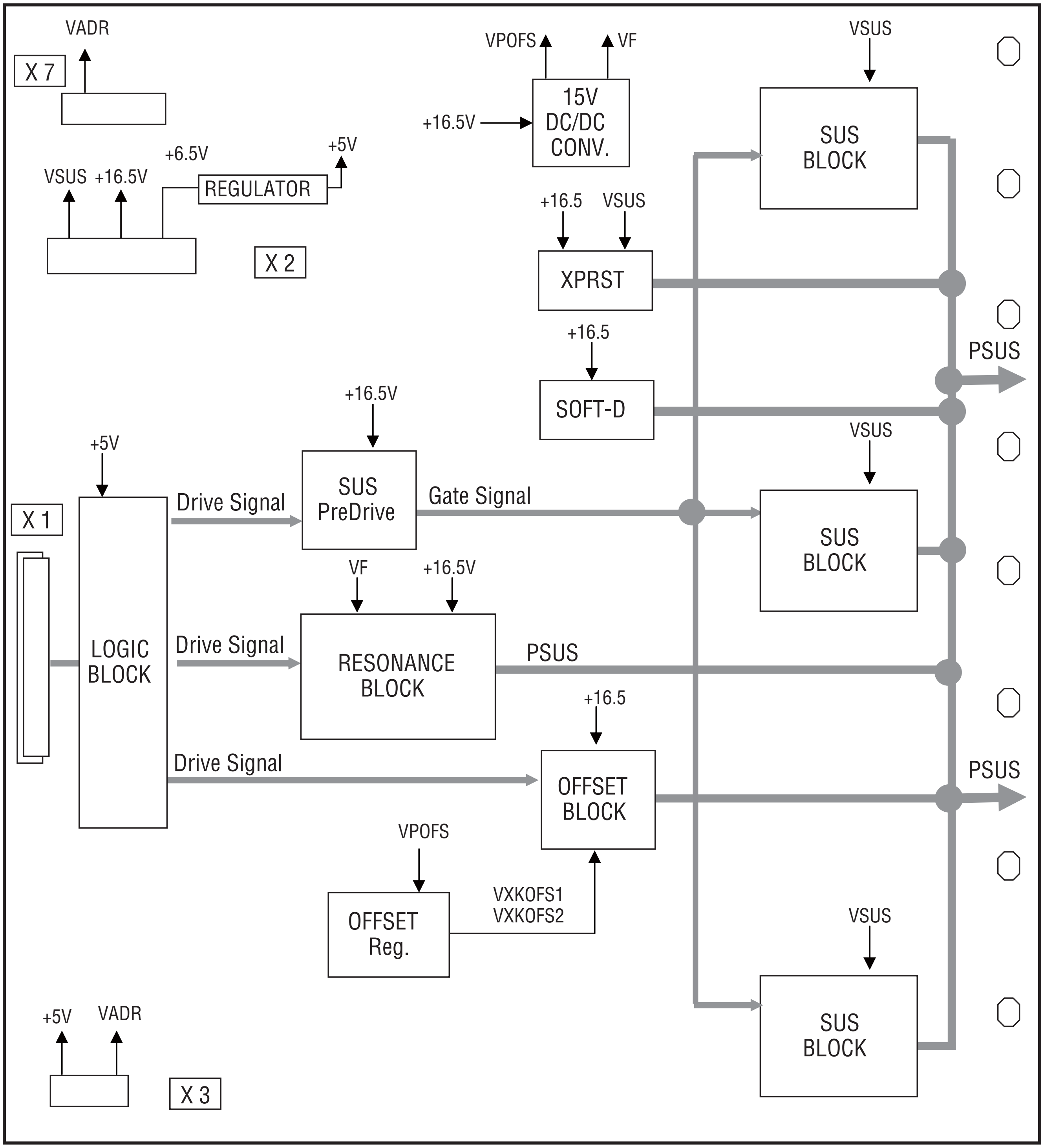
D

E

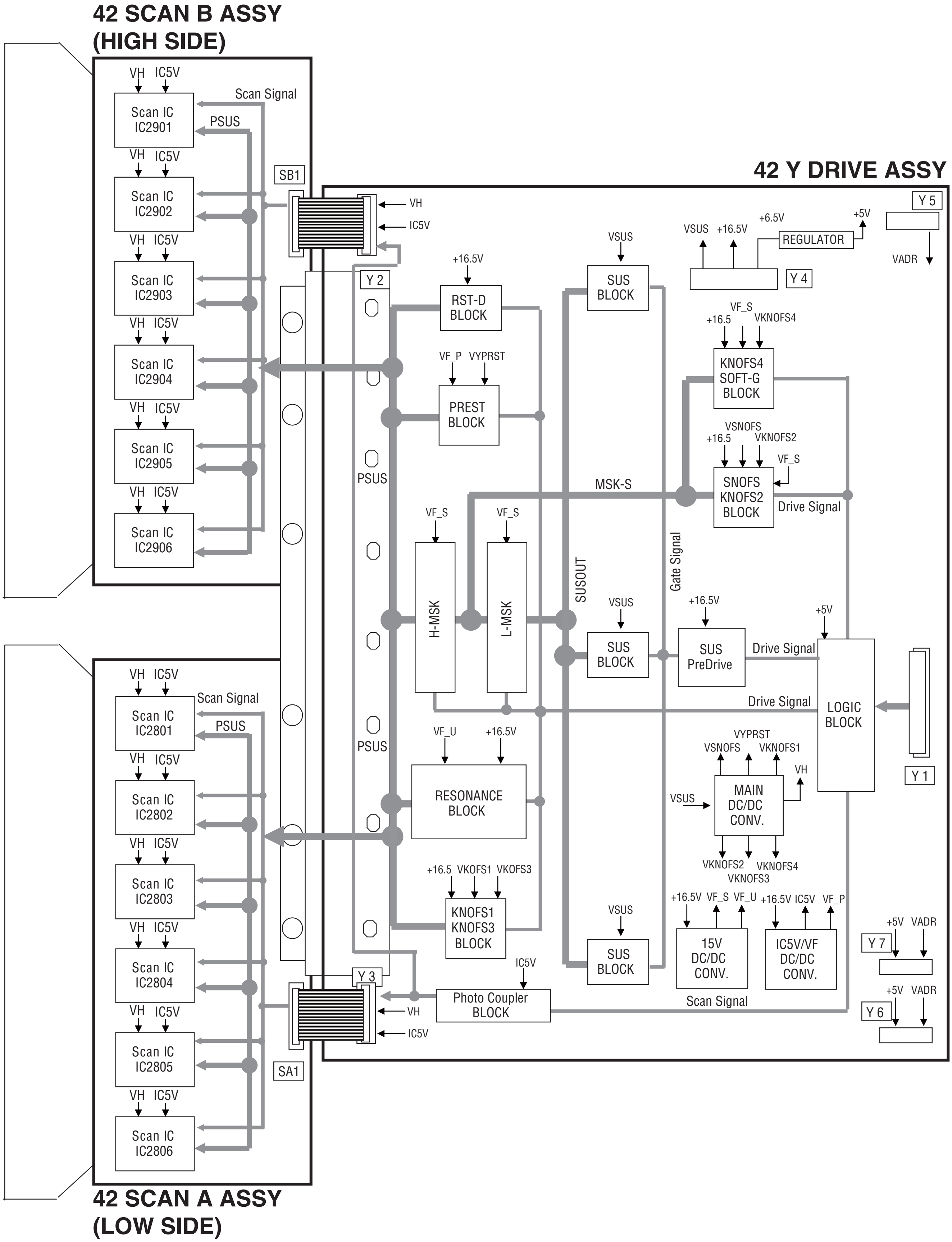
F

4.6 42 X DRIVE ASSY

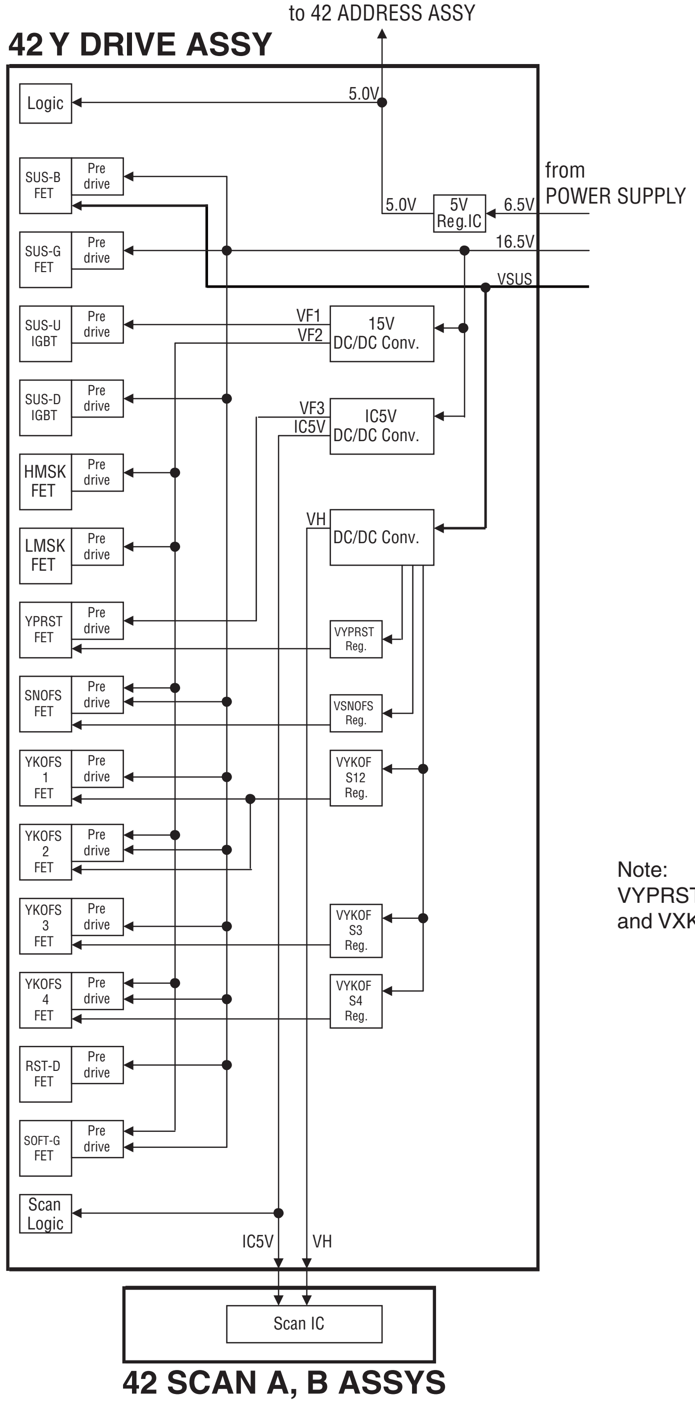
42 X DRIVE ASSY

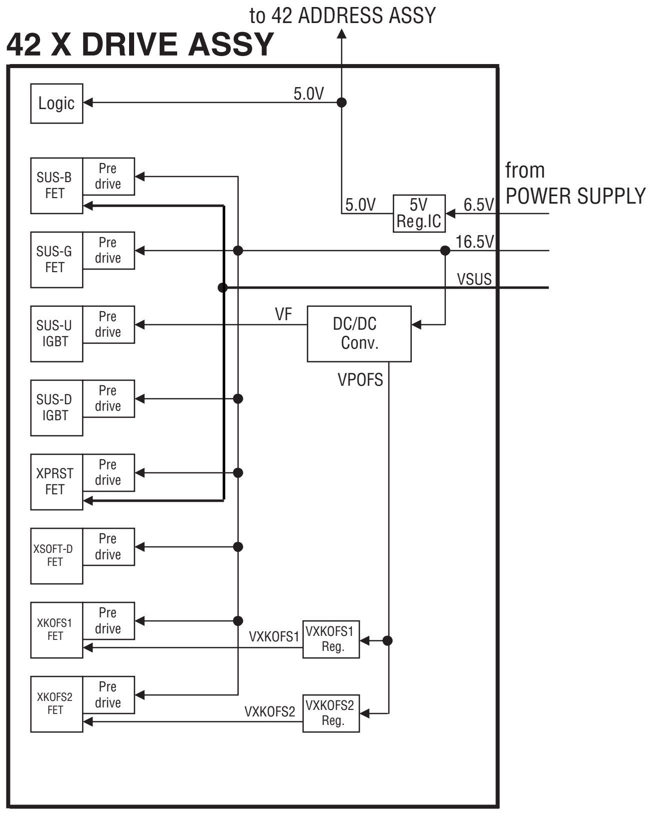

VADR
X 7
VPOFS
VF
VSUS
+16.5V
15V DC/DC CONV.
+6.5V
+5V
VSUS
+16.5V
REGULATOR
SUS BLOCK
+16.5
VSUS
X 2
XPRST
+16.5
PSUS
SOFT-D
+16.5V
VSUS
+5V
X 1
Drive Signal
SUS PreDrive
Gate Signal
SUS BLOCK
VF
+16.5V
LOGIC BLOCK
Drive Signal
RESONANCE BLOCK
PSUS
+16.5
Drive Signal
OFFSET BLOCK
PSUS
VPOFS
OFFSET Reg.
VXKOFS1
VXKOFS2
VSUS
+5V
VADR
X 3
SUS BLOCK

4.7 42 Y DRIVE, 42 SCAN A and B ASSYS


42 SCAN B ASSY
(HIGH SIDE)
VH
IC5V
Scan IC
IC2901
Scan Signal
PSUS
Scan IC
IC2902
Scan IC
IC2903
Scan IC
IC2904
Scan IC
IC2905
Scan IC
IC2906
SB1
42 Y DRIVE ASSY
VH
IC5V
Y 2
Y 5
Y 4
+6.5V
+5V
VSUS
+16.5V
REGULATOR
VADR
VSUS
SUS
BLOCK
+16.5V
RST-D
BLOCK
VF_S
+16.5
VKNOFS4
KNOFS4
SOFT-G
BLOCK
VF_P
VYPRST
PREST
BLOCK
VSNOFS
+16.5
VKNOFS2
VF_S
SNOFS
KNOFS2
BLOCK
Drive Signal
PSUS
MSK-S
VF_S
VF_S
H-MSK
L-MSK
SUSOUT
Gate Signal
VSUS
SUS
BLOCK
+16.5V
SUS
PreDrive
Drive Signal
+5V
LOGIC
BLOCK
Drive Signal
Y 1
VYPRST
VSNOFS
VKNOFS1
VH
VSUS
MAIN
DC/DC
CONV.
VKNOFS2
VKNOFS4
VKNOFS3
PSUS
VF_U
+16.5V
RESONANCE
BLOCK
+16.5
VKOFS1
VKOFS3
KNOFS1
KNOFS3
BLOCK
VSUS
SUS
BLOCK
+16.5V
VF_S
VF_U
15V
DC/DC
CONV.
+16.5V
IC5V
VF_P
IC5V/VF
DC/DC
CONV.
Y 7
+5V
VADR
Y 6
+5V
VADR
IC5V
Photo Coupler
BLOCK
Scan Signal
Y 3
VH
IC5V
SA1
Scan Signal
PSUS
Scan IC
IC2801
Scan IC
IC2802
Scan IC
IC2803
Scan IC
IC2804
Scan IC
IC2805
Scan IC
IC2806
42 SCAN A ASSY
(LOW SIDE)

4.8 POWER SUPPLY BLOCK of 42 X, Y DRIVE and 42 SCAN A, B ASSYS

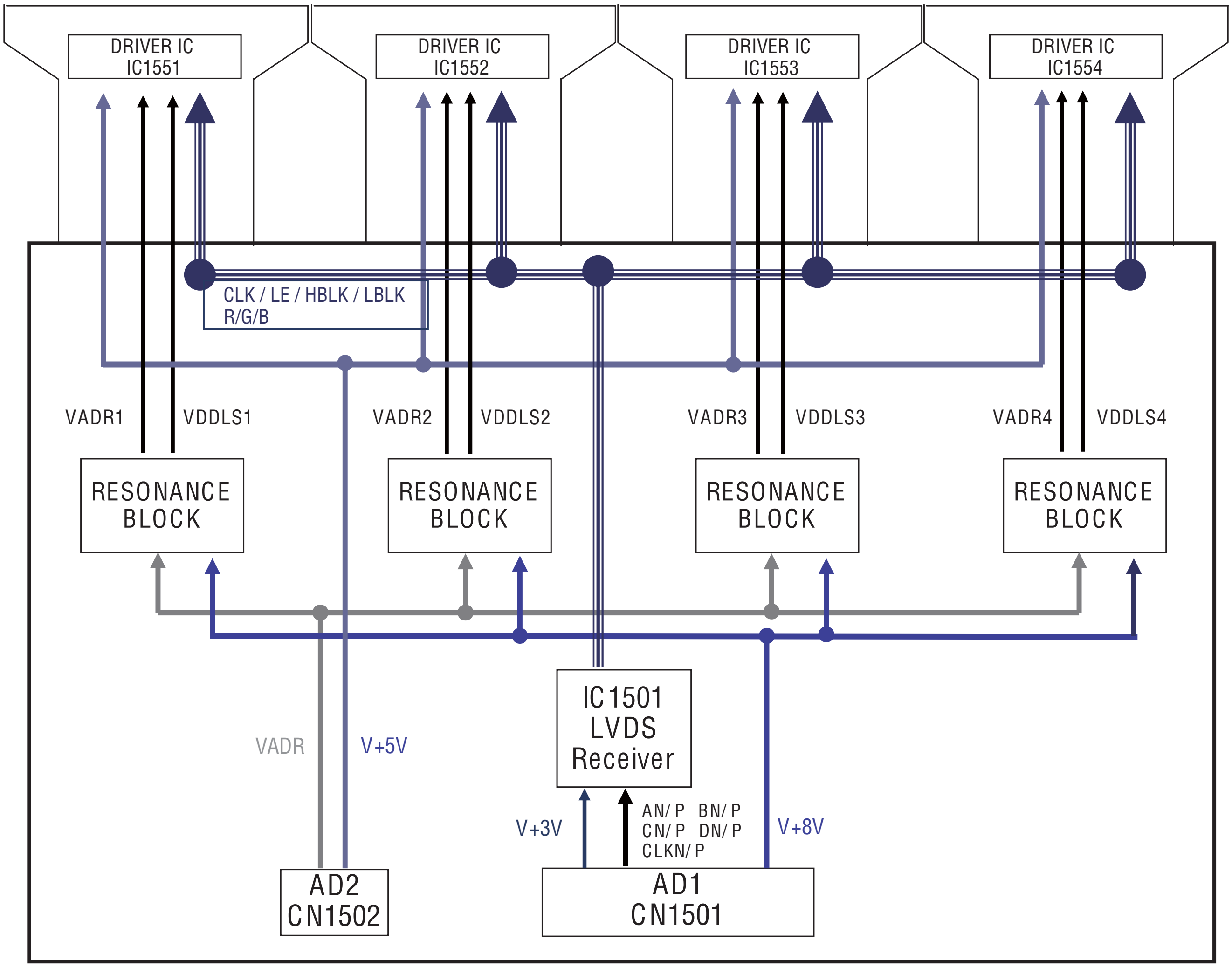

to 42 ADDRESS ASSY
42 Y DRIVE ASSY
Logic
5.0V
from POWER SUPPLY
5.0V
5V Reg.IC
6.5V
16.5V
VSUS
SUS-B FET
SUS-G FET
SUS-U IGBT
SUS-D IGBT
HMSK FET
LMSK FET
YPRST FET
SNOFS FET
YKOFS 1 FET
YKOFS 2 FET
YKOFS 3 FET
YKOFS 4 FET
RST-D FET
SOFT-G FET
Pre drive
VF1
VF2
15V DC/DC Conv.
VF3
IC5V
IC5V DC/DC Conv.
VH
DC/DC Conv.
VYPRST Reg.
VSNOFS Reg.
VYKOF S12 Reg.
VYKOF S3 Reg.
VYKOF S4 Reg.
Scan Logic
IC5V
VH
Scan IC
42 SCAN A, B ASSYS


to 42 ADDRESS ASSY
42 X DRIVE ASSY
Logic
5.0V
from POWER SUPPLY
5.0V
5V Reg.IC
6.5V
16.5V
VSUS
SUS-B FET
SUS-G FET
SUS-U IGBT
SUS-D IGBT
XPRST FET
XSOFT-D FET
XKOFS1 FET
XKOFS2 FET
Pre drive
VF
DC/DC Conv.
VPOFS
VXKOFS1
VXKOFS1 Reg.
VXKOFS2
VXKOFS2 Reg.

Note:
VYPRST, VSNOFS, VYKOFS12, VYKOFS3, VYKOFS4
and VXKOFS2 voltages are electrical volume controls.

4.9 42 ADDRESS ASSY

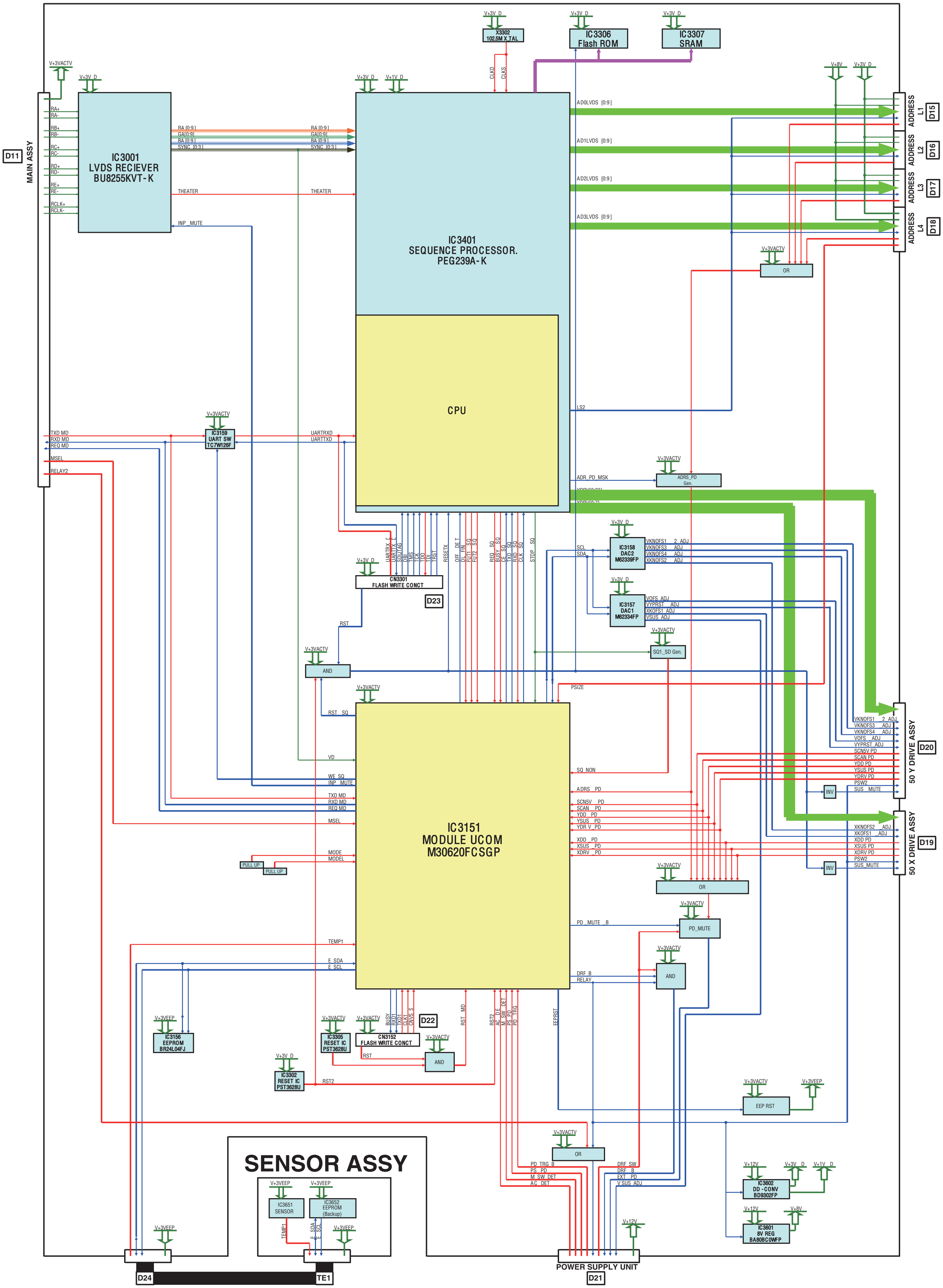
42 ADDRESS ASSY



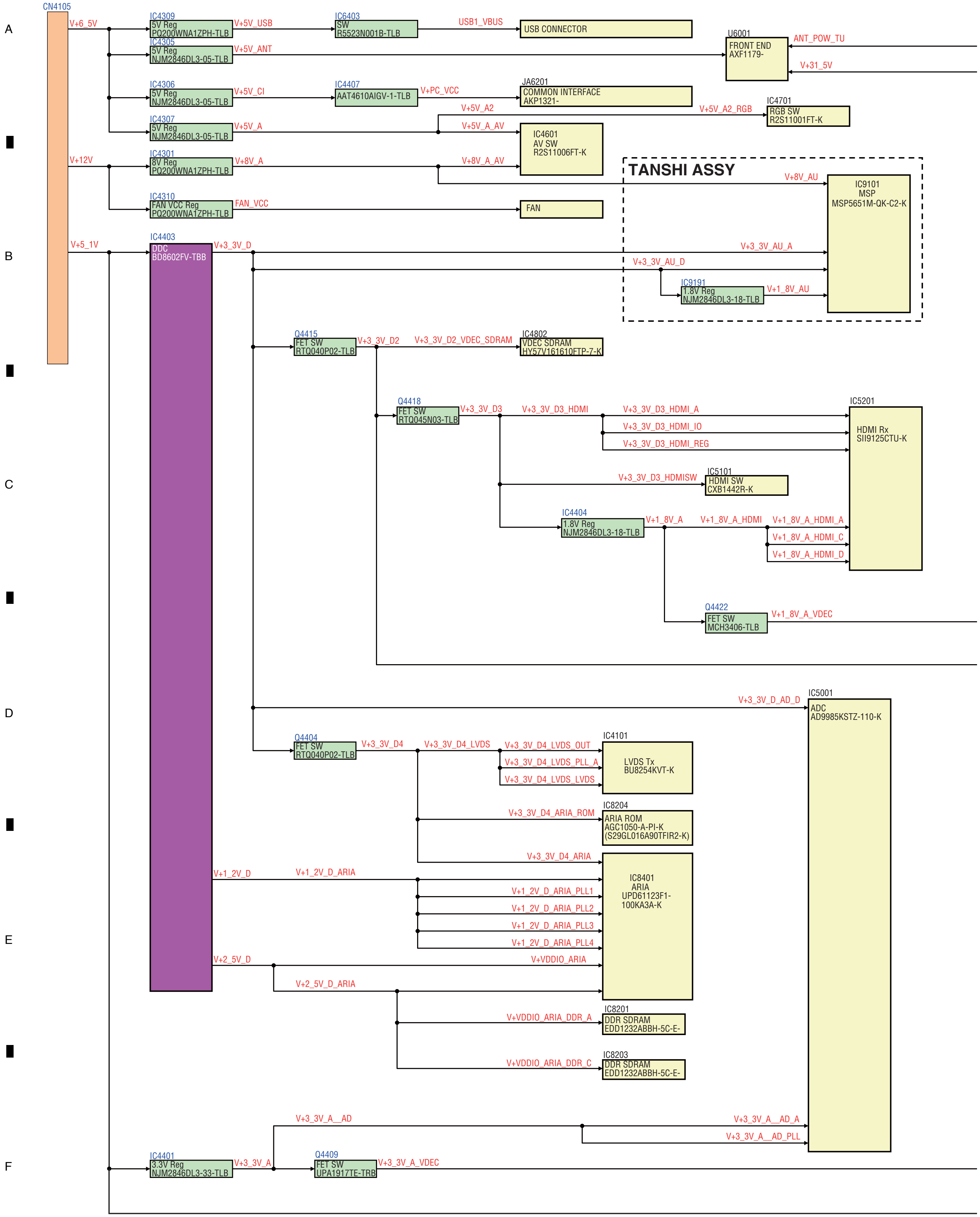
DRIVER IC
IC1551
DRIVER IC
IC1552
DRIVER IC
IC1553
DRIVER IC
IC1554
CLK / LE / HBLK / LBLK
R/G/B
VADR1
VDDLS1
VADR2
VDDLS2
VADR3
VDDLS3
VADR4
VDDLS4
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
VADR
V+5V
IC1501
LVDS
Receiver
V+3V
AN/ P BN/ P
CN/ P DN/ P
CLKN/ P
V+8V
AD2
CN1502
AD1
CN1501

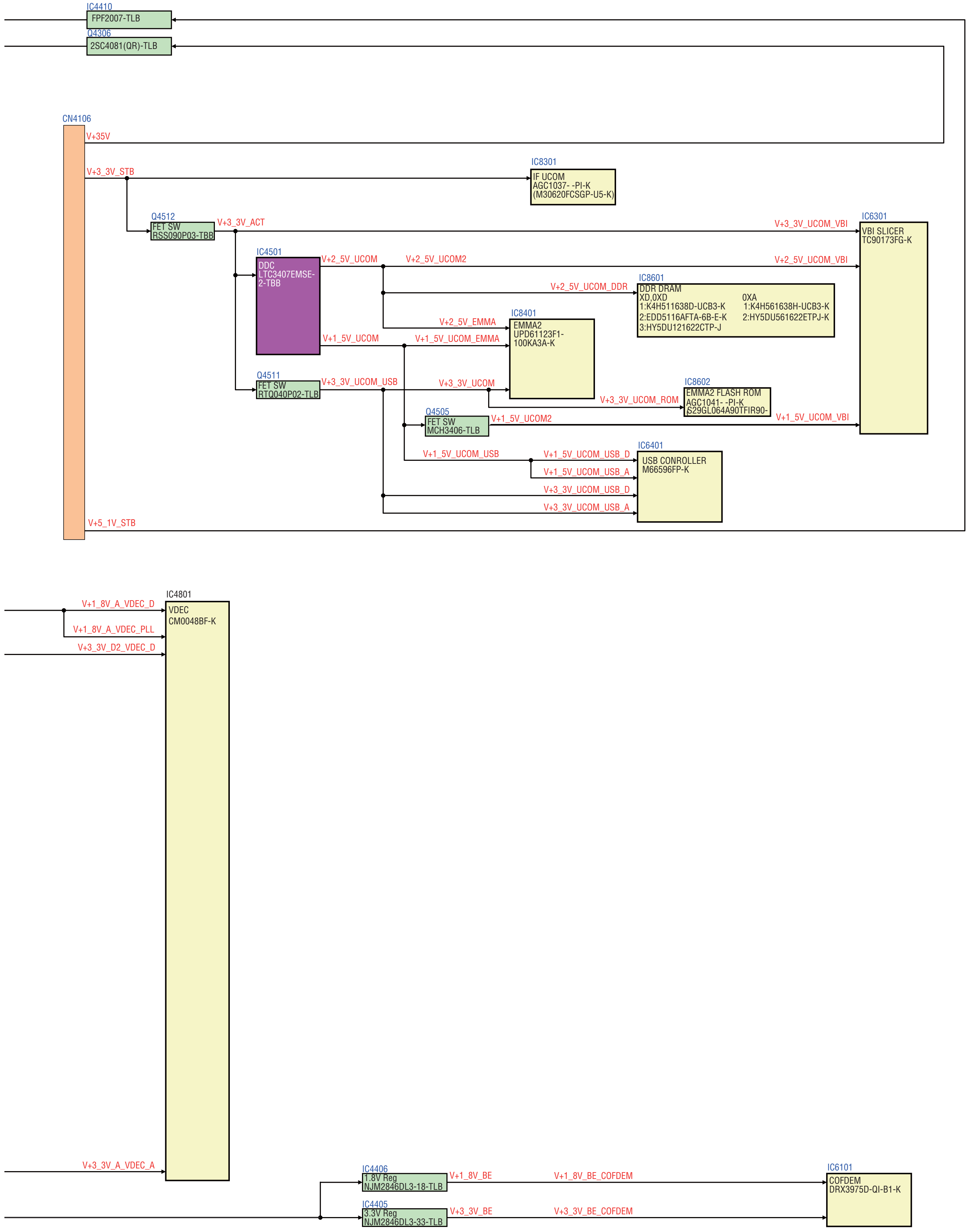
4.10 42 DIGITAL and SENSOR ASSYS

42 DIGITAL ASSY


D11
MAIN ASSY
V+3VACTV
V+3V_D
RA+
RA-
RB+
RB-
RC+
RC-
RD+
RD-
RE+
RE-
RCLK+
RCLK-
IC3001
LVDS RECIEVER
BU8255KVT-K
RA [0:9]
GA[0:9]
BA [0:9]
SYNC [0:3]
THEATER
INP _MUTE
X3302
102.5M X TAL
CLKD
CLKS
V+3V_D
V+1V_D
IC3306
Flash ROM
IC3307
SRAM
IC3401
SEQUENCE PROCESSOR.
PEG239A-K
CPU
AD0LVDS [0:9]
AD1LVDS [0:9]
AD2LVDS [0:9]
AD3LVDS [0:9]
V+8V
ADDRESS L1 D15
ADDRESS L2 D16
ADDRESS L3 D17
ADDRESS L4 D18
OR
LS2
ADR_PD_MSK
ADRS_PD Gen.
TXD MD
RXD MD
REQ MD
MSEL
RELAY2
IC3159
UART SW
TC7W126F
UARTRXD
UARTTXD
UARTRX_C
UARTTX_C
SDIJTAG
DBI
TMS
TCK
TDO
TDI
TRST
RESETX
OFF_DET
DL_FIN
FUT1_SQ
FUT2_SQ
REQ_SQ
BUSY_SQ
CE_SQ
TXD_SQ
RXD_SQ
CLK_SQ
STOP_SQ
CN3301
FLASH WRITE CONCT
D23
RST
AND
SCL
SDA
IC3158
DAC2
M62339FP
VKNOFS1_2_ADJ
VKNOFS3_ADJ
VKNOFS4_ADJ
XKNOFS2_ADJ
IC3157
DAC1
M62334FP
VOFS_ADJ
VYPRST_ADJ
XKOFS1_ADJ
VSUS_ADJ
SQ1_SD Gen.
PSIZE
RST_SQ
VD
WE_SQ
INP_MUTE
MODE
MODEL
PULL UP
PULL UP
IC3151
MODULE UCOM
M30620FCSGP
SQ_NON
ADRS_PD
SCN5V_PD
SCAN_PD
YDD_PD
YSUS_PD
YDR V_PD
XDD_PD
XSUS_PD
XDRV_PD
VKNOFS1_2_ADJ
VKNOFS3_ADJ
VKNOFS4_ADJ
VOFS_ADJ
VYPRST_ADJ
SCN5V PD
SCAN PD
YDD PD
YSUS PD
YDRV PD
PSW2
SUS_MUTE
INV
50 Y DRIVE ASSY
D20
XKNOFS2_ADJ
XKOFS1_ADJ
XDD PD
XSUS PD
XDRV PD
PSW2
SUS_MUTE
INV
50 X DRIVE ASSY
D19
PD_MUTE_B
PD_MUTE
DRF_B
RELAY
TEMP1
E_SDA
E_SCL
V+3VEEP
IC3156
EEPROM
BR24L04FJ
IC3305
RESET IC
PST3628U
CN3152
FLASH WRITE CONCT
BUSY
RXD1
TXD1
CLK1
CNVS_S
D22
RST_MD
IC3302
RESET IC
PST3628U
RST2
AC_DE
M_SW_DET
PS_PD
PD_TRG
EEPRST
EEP RST
OR
PD_TRG_B
PS_PD
M_SW_DET
AC_DET
DRF_SW
DRF_B
EXT_PD
V SUS_ADJ
V+12V
POWER SUPPLY UNIT
D21
V+12V
V+3V_D
V+1V_D
IC3602
DD-CONV
BD9302FP
V+8V
IC3601
8V REG
BA80BC0WFP
SENSOR ASSY
IC3651
SENSOR
IC3652
EEPROM
(Backup)
TEMP1
E_SDA
E_SCL
D24
TE1

4.11 POWER SUPPLY BLOCK of MULTI BASE SECTION

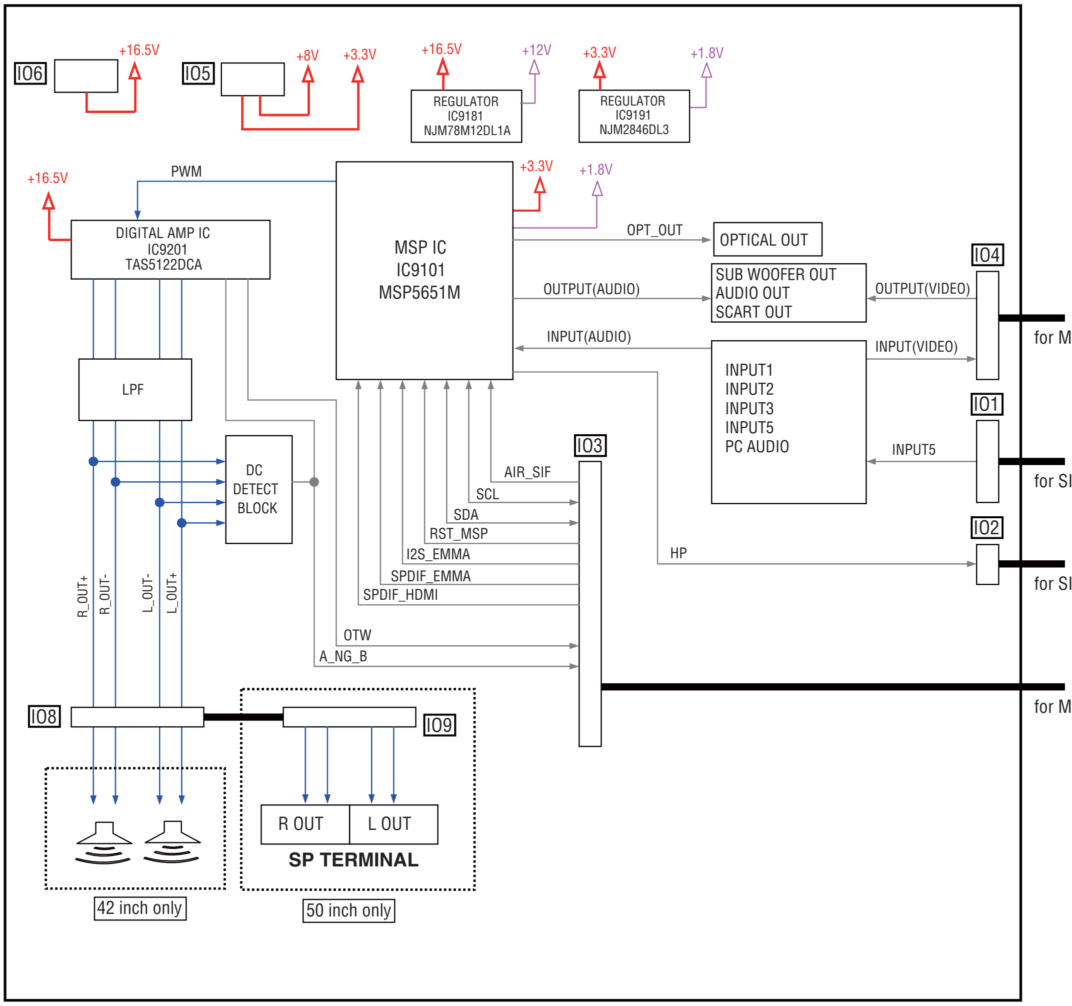

A
B
C
D
E
F
CN4105
V+6_5V
V+12V
V+5_1V
IC4309
5V Reg
PQ200WNA1ZPH-TLB
V+5V_USB
IC6403
SW
R5523N001B-TLB
USB1_VBUS
USB CONNECTOR
IC4305
5V Reg
NJM2846DL3-05-TLB
V+5V_ANT
U6001
FRONT END
AXF1179-
ANT_POW_TU
V+31_5V
IC4306
5V Reg
NJM2846DL3-05-TLB
V+5V_CI
IC4407
AAT4610AIGV-1-TLB
V+PC_VCC
JA6201
COMMON INTERFACE
AKP1321-
V+5V_A2
V+5V_A2_RGB
IC4701
RGB SW
R2S11001FT-K
IC4307
5V Reg
NJM2846DL3-05-TLB
V+5V_A
V+5V_A_AV
IC4601
AV SW
R2S11006FT-K
IC4301
8V Reg
PQ200WNA1ZPH-TLB
V+8V_A
V+8V_A_AV
TANSHI ASSY
V+8V_AU
IC9101
MSP
MSP5651M-QK-C2-K
IC4310
FAN VCC Reg
PQ200WNA1ZPH-TLB
FAN_VCC
FAN
IC4403
DDC
BD8602FV-TBB
V+3_3V_D
V+3_3V_AU_A
V+3_3V_AU_D
IC9191
1.8V Reg
NJM2846DL3-18-TLB
V+1_8V_AU
Q4415
FET SW
RTQ040P02-TLB
V+3_3V_D2
V+3_3V_D2_VDEC_SDRAM
IC4802
VDEC SDRAM
HY57V161610FTP-7-K
Q4418
FET SW
RTQ045N03-TLB
V+3_3V_D3
V+3_3V_D3_HDMI
V+3_3V_D3_HDMI_A
V+3_3V_D3_HDMI_IO
V+3_3V_D3_HDMI_REG
IC5201
HDMI Rx
SII9125CTU-K
V+3_3V_D3_HDMISW
IC5101
HDMI SW
CXB1442R-K
IC4404
1.8V Reg
NJM2846DL3-18-TLB
V+1_8V_A
V+1_8V_A_HDMI
V+1_8V_A_HDMI_A
V+1_8V_A_HDMI_C
V+1_8V_A_HDMI_D
Q4422
FET SW
MCH3406-TLB
V+1_8V_A_VDEC
V+3_3V_D_AD_D
IC5001
ADC
AD9985KSTZ-110-K
Q4404
FET SW
RTQ040P02-TLB
V+3_3V_D4
V+3_3V_D4_LVDS
V+3_3V_D4_LVDS_OUT
V+3_3V_D4_LVDS_PLL_A
V+3_3V_D4_LVDS_LVDS
IC4101
LVDS Tx
BU8254KVT-K
V+3_3V_D4_ARIA_ROM
IC8204
ARIA ROM
AGC1050-A-PI-K
(S29GL016A90TFIR2-K)
V+3_3V_D4_ARIA
IC8401
ARIA
UPD61123F1-
100KA3A-K
V+1_2V_D
V+1_2V_D_ARIA
V+1_2V_D_ARIA_PLL1
V+1_2V_D_ARIA_PLL2
V+1_2V_D_ARIA_PLL3
V+1_2V_D_ARIA_PLL4
V+2_5V_D
V+VDDIO_ARIA
V+2_5V_D_ARIA
IC8201
DDR SDRAM
EDD1232ABBH-5C-E-
V+VDDIO_ARIA_DDR_A
IC8203
DDR SDRAM
EDD1232ABBH-5C-E-
V+VDDIO_ARIA_DDR_C
V+3_3V_A__AD
V+3_3V_A__AD_A
V+3_3V_A__AD_PLL
IC4401
3.3V Reg
NJM2846DL3-33-TLB
V+3_3V_A
Q4409
FET SW
UPA1917TE-TRB
V+3_3V_A_VDEC



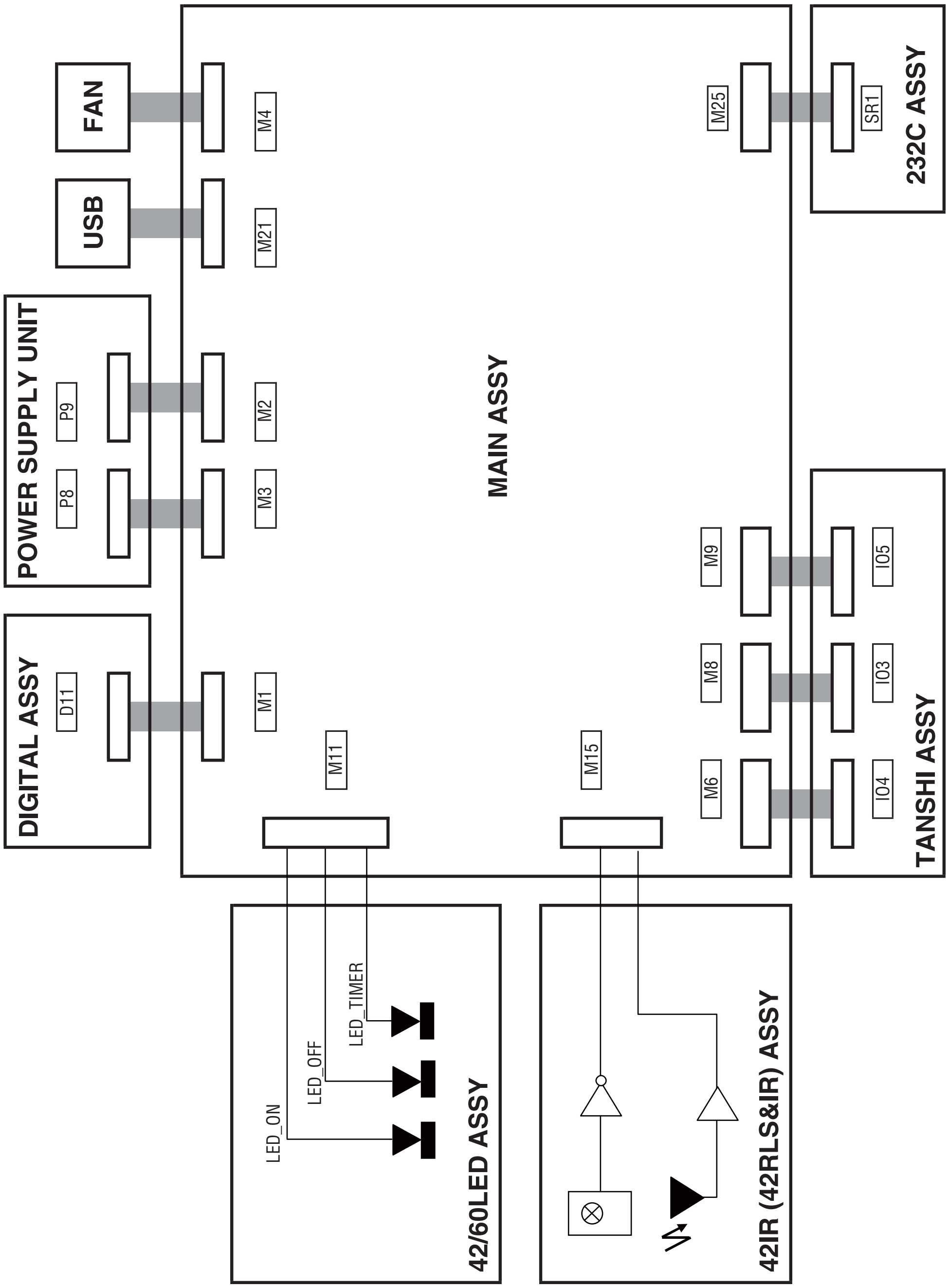
A
B
C
D
E
F
IC4410
FPF2007-TLB
Q4306
2SC4081(QR)-TLB
CN4106
V+35V
V+3_3V_STB
IC8301
IF UCOM
AGC1037- -PI-K
(M30620FCSGP-U5-K)
Q4512
FET SW
RSS090P03-TBB
V+3_3V_ACT
V+3_3V_UCOM_VBI
IC6301
VBI SLICER
TC90173FG-K
IC4501
DDC
LTC3407EMSE-
2-TBB
V+2_5V_UCOM
V+2_5V_UCOM2
V+2_5V_UCOM_VBI
IC8601
V+2_5V_UCOM_DDR
DDR DRAM
XD,0XD
0XA
1:K4H511638D-UCB3-K
2:EDD5116AFTA-6B-E-K
3:HY5DU121622CTP-J
1:K4H561638H-UCB3-K
2:HY5DU561622ETPJ-K
IC8401
V+2_5V_EMMA
EMMA2
UPD61123F1-
100KA3A-K
V+1_5V_UCOM
V+1_5V_UCOM_EMMA
Q4511
FET SW
RTQ040P02-TLB
V+3_3V_UCOM_USB
V+3_3V_UCOM
IC8602
EMMA2 FLASH ROM
AGC1041- -PI-K
S29GL064A90TFIR90-
V+3_3V_UCOM_ROM
Q4505
FET SW
MCH3406-TLB
V+1_5V_UCOM2
V+1_5V_UCOM_VBI
IC6401
USB CONROLLER
M66596FP-K
V+1_5V_UCOM_USB
V+1_5V_UCOM_USB_D
V+1_5V_UCOM_USB_A
V+3_3V_UCOM_USB_D
V+3_3V_UCOM_USB_A
V+5_1V_STB
IC4801
VDEC
CM0048BF-K
V+1_8V_A_VDEC_D
V+1_8V_A_VDEC_PLL
V+3_3V_D2_VDEC_D
V+3_3V_A_VDEC_A
IC4406
1.8V Reg
NJM2846DL3-18-TLB
V+1_8V_BE
V+1_8V_BE_COFDEM
IC4405
3.3V Reg
NJM2846DL3-33-TLB
V+3_3V_BE
V+3_3V_BE_COFDEM
IC6101
COFDEM
DRX3975D-QI-B1-K

4.12 TANSHI ASSY

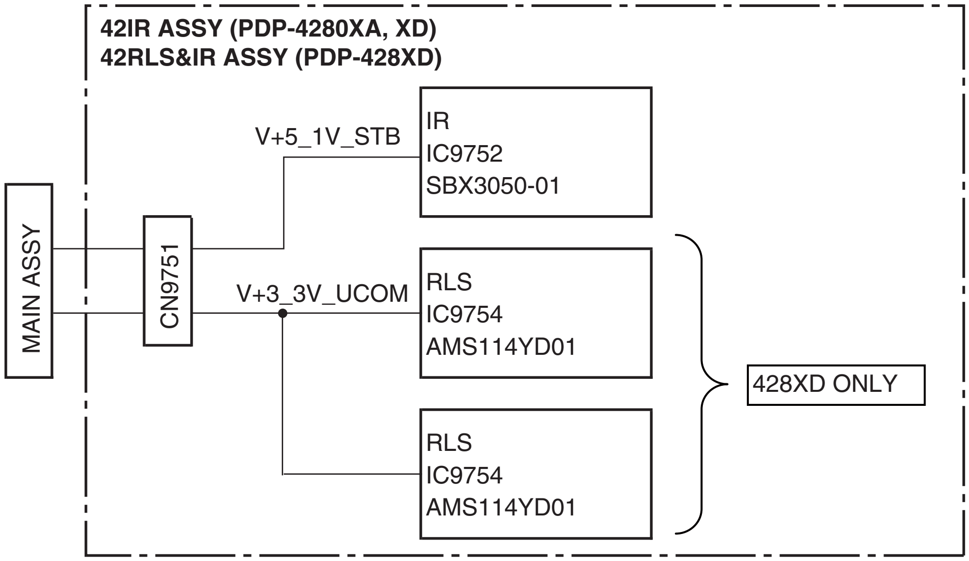
TANSHI ASSY

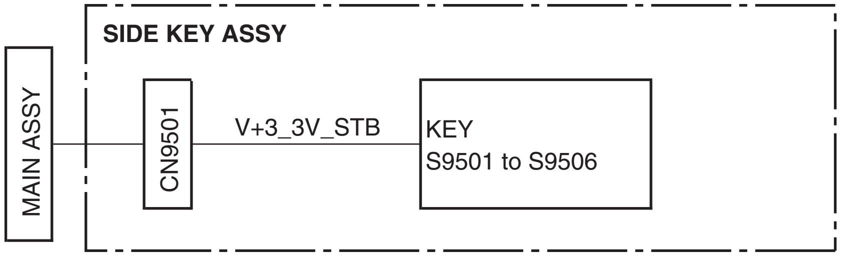

I06
+16.5V
I05
+8V
+3.3V
+16.5V
+12V
REGULATOR
IC9181
NJM78M12DL1A
+3.3V
+1.8V
REGULATOR
IC9191
NJM2846DL3
+16.5V
PWM
DIGITAL AMP IC
IC9201
TAS5122DCA
MSP IC
IC9101
MSP5651M
+3.3V
+1.8V
OPT_OUT
OPTICAL OUT
OUTPUT(AUDIO)
SUB WOOFER OUT
AUDIO OUT
SCART OUT
OUTPUT(VIDEO)
I04
for MAIN ASSY
INPUT(AUDIO)
INPUT(VIDEO)
INPUT1
INPUT2
INPUT3
INPUT5
PC AUDIO
I01
INPUT5
for SIDE IO ASSY
I02
HP
for SIDE IO ASSY
LPF
DC
DETECT
BLOCK
I03
AIR_SIF
SCL
SDA
RST_MSP
I2S_EMMA
SPDIF_EMMA
SPDIF_HDMI
OTW
A_NG_B
R_OUT+
R_OUT-
L_OUT-
L_OUT+
for MAIN ASSY
I08
I09
R OUT
L OUT
SP TERMINAL
42 inch only
50 inch only

4.13 42/60LED and 42IR (42RLS&IR) ASSYS


FAN
M4
USB
M21
POWER SUPPLY UNIT
P9
P8
M2
M3
DIGITAL ASSY
D11
M1
M11
M15
MAIN ASSY
M25
SR1
232C ASSY
M9
M8
M6
I05
I03
I04
TANSHI ASSY
LED_ON
LED_OFF
LED_TIMER
42/60LED ASSY
42IR (42RLS&IR) ASSY

4.14 POWER SUPPLY BLOCK of 42IR (42RLS&IR) and SIDE KEY ASSYS


42IR ASSY (PDP-4280XA, XD)
42RLS&IR ASSY (PDP-428XD)
MAIN ASSY
CN9751
V+5_1V_STB
IR
IC9752
SBX3050-01
V+3_3V_UCOM
RLS
IC9754
AMS114YD01
RLS
IC9754
AMS114YD01
428XD ONLY

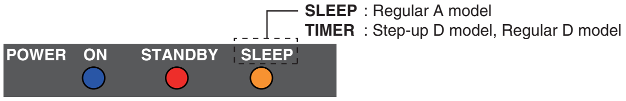

SIDE KEY ASSY
MAIN ASSY
CN9501
V+3_3V_STB
KEY
S9501 to S9506

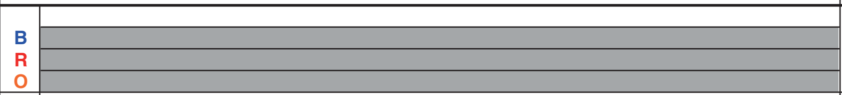
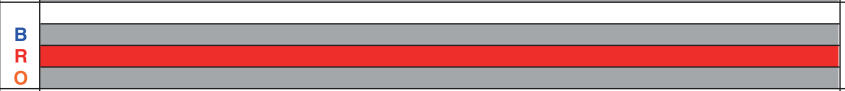
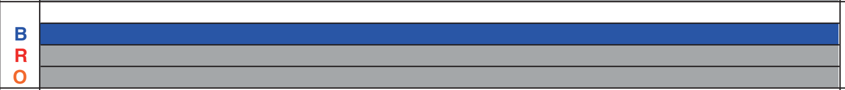
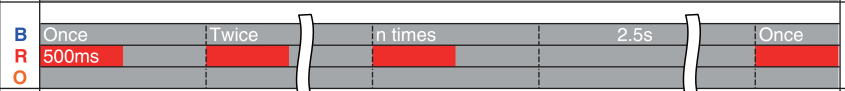
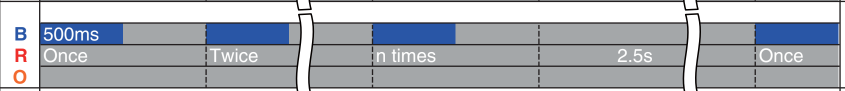
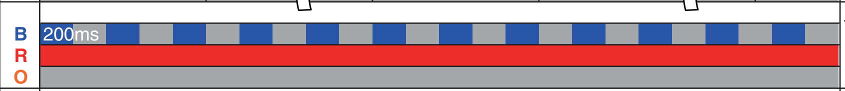
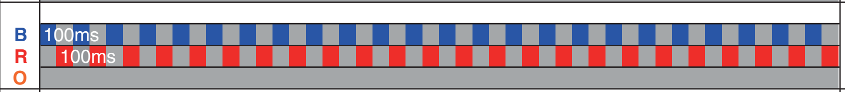
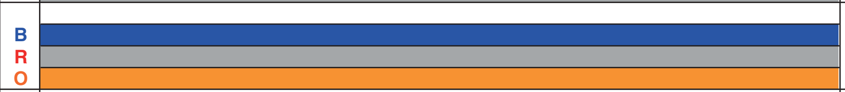
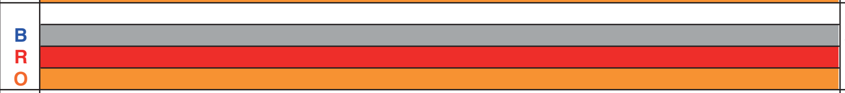
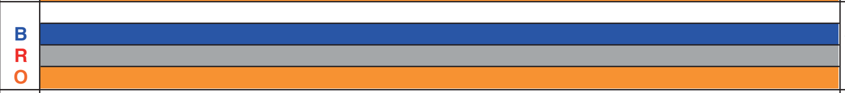
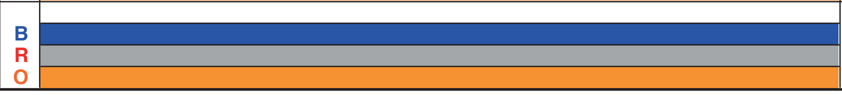
5. DIAGNOSIS

5.1 POWER SUPPLY OPERATION

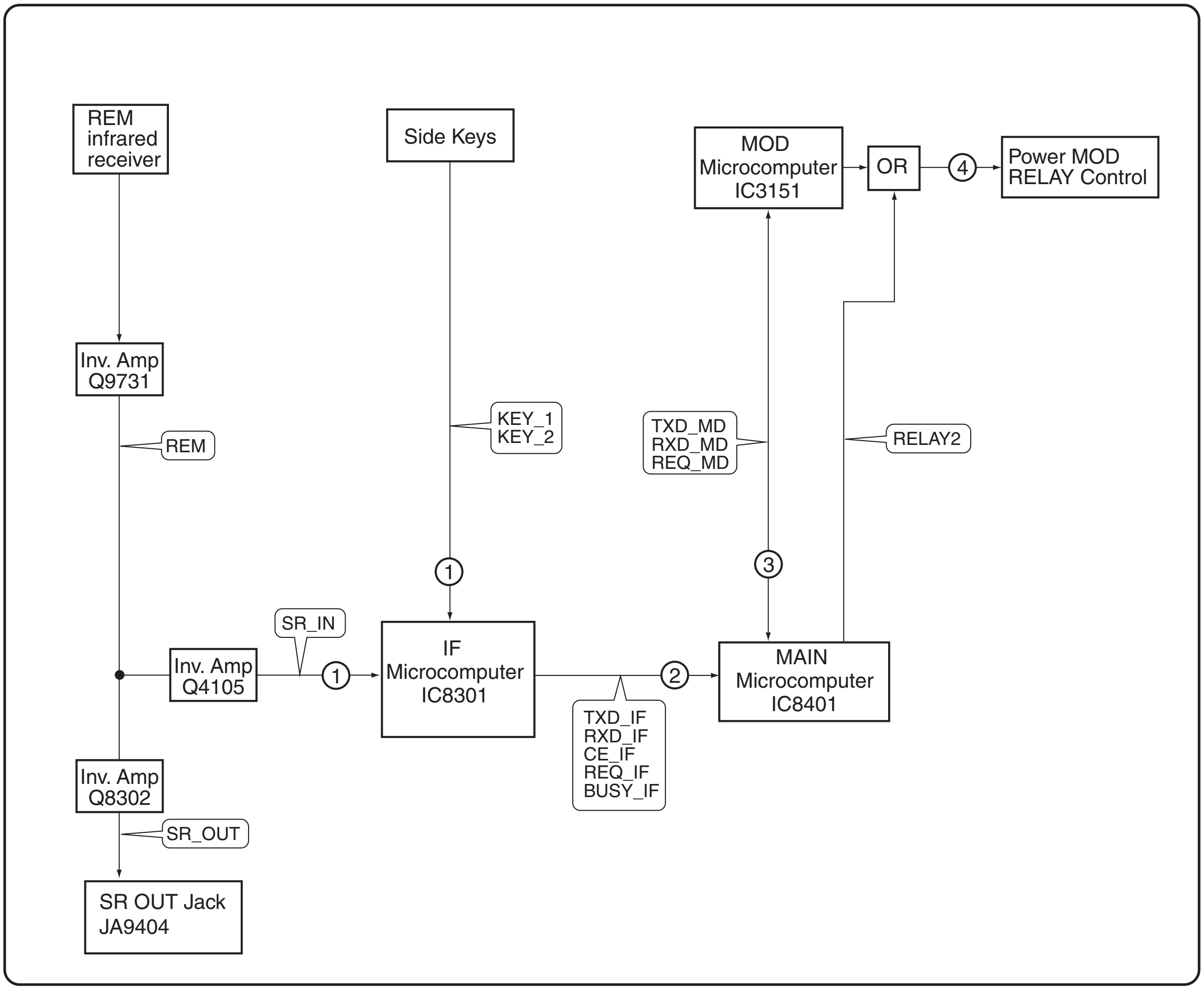
5.1.1 LED DISPLAY INFORMATION

LED Pattern


SLEEP : Regular A model
TIMER : Step-up D model, Regular D model
POWER
ON
STANDBY
SLEEP

State	LED Pattern	Remarks
AC OFF or Main power switch OFF		
Standby power management		
Power ON (Screen ON)		
Power-down	 B R O Once Twice n times 2.5s Once 500ms	
Shutdown	 B R O 500ms Once Twice n times 2.5s Once	
No digital adjustment data copied for backup		The LEDs flash only while the panel is turned on.
In the process of rewriting the program of the microcomputer	 B R O 100ms 100ms	
During factory operation		
During reservation video recording (Unit: Standby)		Step-up D model, Regular D model only
During reservation video recording (Unit: ON)		Step-up D model, Regular D model only
Sleep timer		Regular A model only

5.1.2 POWER ON SEQUENCE


REM infrared receiver
Side Keys
MOD Microcomputer IC3151
OR
④
Power MOD RELAY Control
Inv. Amp Q9731
KEY_1
KEY_2
TXD_MD
RXD_MD
REQ_MD
RELAY2
REM
①
③
SR_IN
IF Microcomputer IC8301
Inv. Amp Q4105
①
②
MAIN Microcomputer IC8401
TXD_IF
RXD_IF
CE_IF
REQ_IF
BUSY_IF
Inv. Amp Q8302
SR_OUT
SR OUT Jack JA9404

① : The remote control (or KEY) signal is input to the IF microcomputer.
② : The IF microcomputer sends the operation data of the remote control unit (or KEY) to the main microcomputer.
③ : The main microcomputer issues a startup command (PON) to the MOD microcomputer.
④ : The relay is controlled with logical OR interpretation of control signals by the main microcomputer and module (MOD) microcomputer.

5.1.3 DETAILS OF POWER ON SEQUENCE

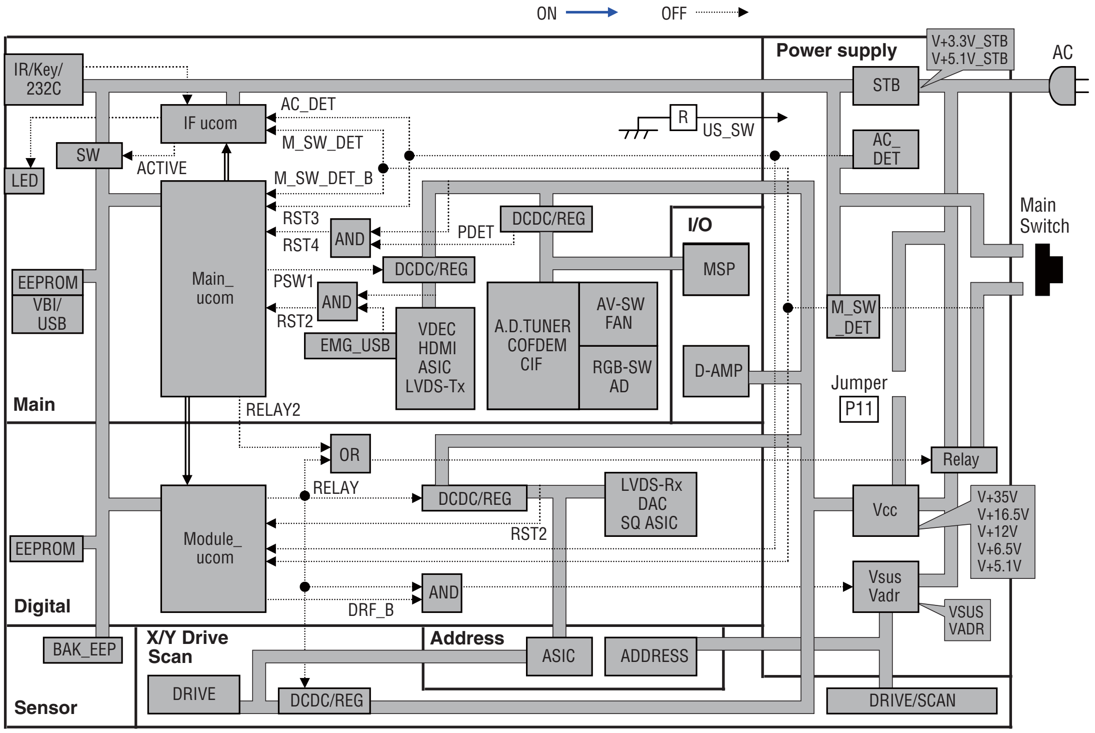
Power supply status - AC off

Microcomputer
output port state

IF: ACTIVE	OFF
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer
input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF


ON
OFF
IR/Key/ 232C
LED
SW
IF ucom
ACTIVE
AC_DET
M_SW_DET
M_SW_DET_B
RST3
RST4
AND
PSW1
RST2
EMG_USB
Main_ ucom
EEPROM
VBI/ USB
Main
DCDC/REG
PDET
VDEC HDMI ASIC LVDS-Tx
A.D.TUNER COFDEM CIF
AV-SW FAN
RGB-SW AD
I/O
MSP
D-AMP
R
US_SW
Power supply
STB
V+3.3V_STB V+5.1V_STB
AC
AC_ DET
Main Switch
M_SW _DET
Jumper
P11
Relay
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
Vsus Vadr
VSUS VADR
RELAY2
OR
RELAY
LVDS-Rx DAC SQ ASIC
Module_ ucom
Digital
DRF_B
BAK_EEP
X/Y Drive Scan
Address
ASIC
ADDRESS
DRIVE
Sensor
DRIVE/SCAN

The state of AC cord is pulled out.

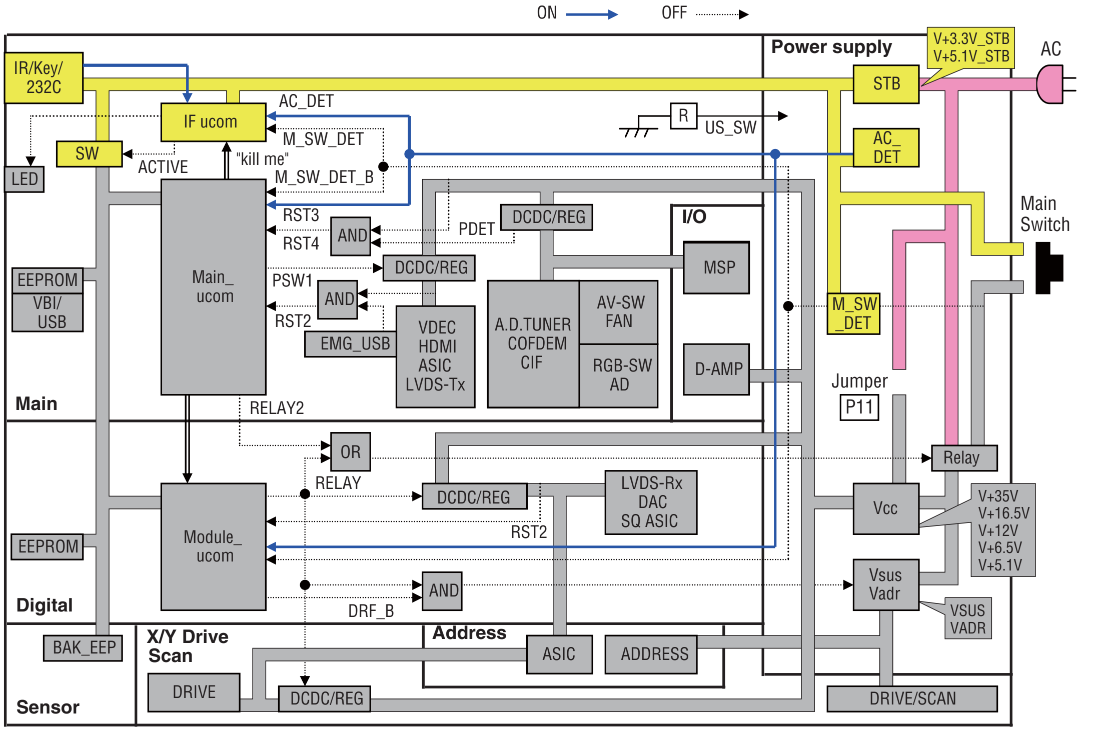
Power supply status - Passive standby (Main switch off)

Microcomputer
output port state

IF: ACTIVE	OFF
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer
input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF


ON
OFF
IR/Key/ 232C
LED
SW
IF ucom
ACTIVE
"kill me"
AC_DET
M_SW_DET
M_SW_DET_B
RST3
RST4
AND
PSW1
RST2
EMG_USB
Main_ ucom
EEPROM
VBI/ USB
Main
DCDC/REG
PDET
VDEC HDMI ASIC LVDS-Tx
A.D.TUNER COFDEM CIF
AV-SW FAN
RGB-SW AD
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MSP
D-AMP
R
US_SW
Power supply
STB
V+3.3V_STB V+5.1V_STB
AC
AC_ DET
Main Switch
M_SW _DET
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Relay
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Vsus Vadr
VSUS VADR
RELAY2
OR
RELAY
LVDS-Rx DAC SQ ASIC
Module_ ucom
Digital
DRF_B
BAK_EEP
X/Y Drive Scan
Address
ASIC
ADDRESS
DRIVE
Sensor
DRIVE/SCAN

The user operation is invalid. (All LED: OFF)
Among standby power devices, only the IF microcomputer periphery operates.

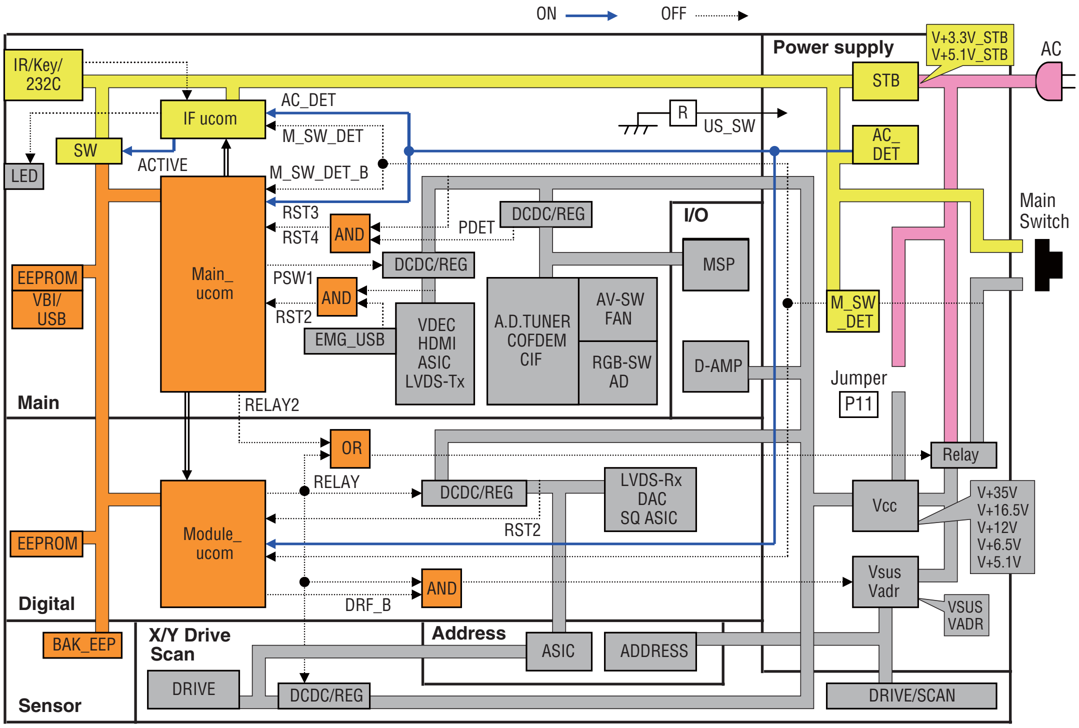
Power supply status - Active standby (Main switch off)

Microcomputer output port state

IF: ACTIVE	**ON**
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF



ON
OFF
IR/Key/232C
IF ucom
SW
LED
ACTIVE
AC_DET
M_SW_DET
M_SW_DET_B
R
US_SW
Power supply
V+3.3V_STB
V+5.1V_STB
STB
AC
AC_DET
Main Switch
RST3
RST4
AND
PDET
DCDC/REG
I/O
MSP
EEPROM
VBI/USB
Main_ucom
PSW1
AND
RST2
EMG_USB
DCDC/REG
VDEC HDMI ASIC LVDS-Tx
A.D.TUNER COFDEM CIF
AV-SW FAN
RGB-SW AD
D-AMP
M_SW_DET
Jumper
P11
Main
RELAY2
OR
RELAY
Relay
DCDC/REG
LVDS-Rx DAC SQ ASIC
Vcc
V+35V
V+16.5V
V+12V
V+6.5V
V+5.1V
RST2
EEPROM
Module_ucom
AND
DRF_B
Vsus Vadr
VSUS VADR
Digital
BAK_EEP
X/Y Drive Scan
Address
ASIC
ADDRESS
DRIVE
DCDC/REG
DRIVE/SCAN
Sensor

The user operation is invalid. (All LED: OFF)
Standby power devices (periphery of IF/Main/Module microcomputer) operate.

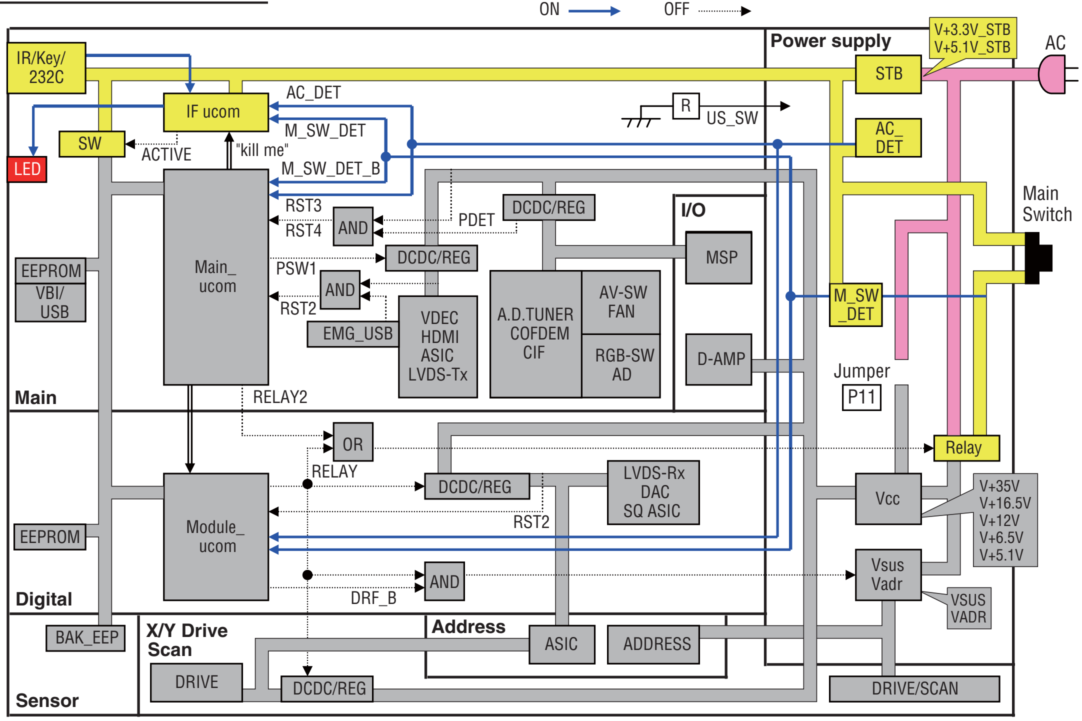
Power supply status - Passive standby

Microcomputer output port state

IF: ACTIVE	OFF
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF



ON
OFF
IR/Key/232C
IF ucom
SW
LED
ACTIVE
"kill me"
AC_DET
M_SW_DET
M_SW_DET_B
R
US_SW
Power supply
V+3.3V_STB
V+5.1V_STB
STB
AC
AC_DET
Main Switch
RST3
RST4
AND
PDET
DCDC/REG
I/O
MSP
EEPROM
VBI/USB
Main_ucom
PSW1
AND
RST2
EMG_USB
DCDC/REG
VDEC HDMI ASIC LVDS-Tx
A.D.TUNER COFDEM CIF
AV-SW FAN
RGB-SW AD
D-AMP
M_SW_DET
Jumper
P11
Main
RELAY2
OR
RELAY
Relay
DCDC/REG
LVDS-Rx DAC SQ ASIC
Vcc
V+35V
V+16.5V
V+12V
V+6.5V
V+5.1V
RST2
EEPROM
Module_ucom
AND
DRF_B
Vsus Vadr
VSUS VADR
Digital
BAK_EEP
X/Y Drive Scan
Address
ASIC
ADDRESS
DRIVE
DCDC/REG
DRIVE/SCAN
Sensor

Remote control unit waiting state. (Red LED: ON)
Among standby power devices, only the IF microcomputer periphery operates.

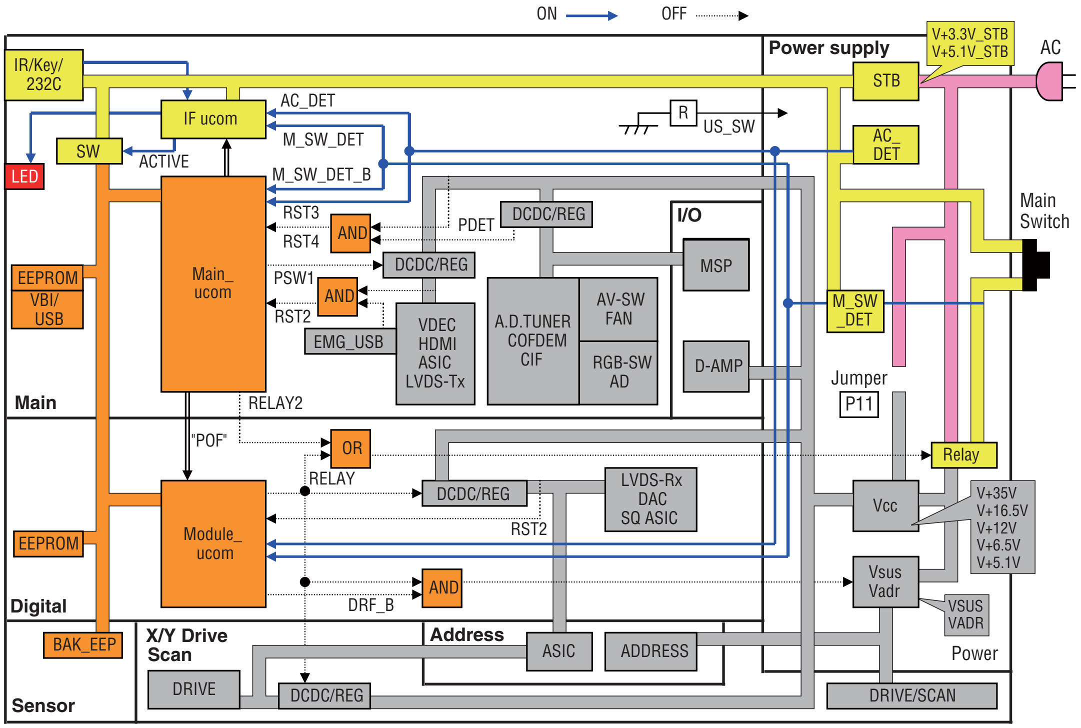
Power supply status - Active standby

Microcomputer output port state

IF: ACTIVE	ON
Main: RELAY2	OFF
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	OFF
Main: RST2	OFF
Module: RST2	OFF


ON
OFF
IR/Key/ 232C
IF ucom
SW
LED
ACTIVE
AC_DET
M_SW_DET
M_SW_DET_B
R
US_SW
Power supply
V+3.3V_STB V+5.1V_STB
AC
STB
AC_ DET
Main Switch
M_SW _DET
Jumper
P11
Relay
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
Vsus Vadr
VSUS VADR
Power
DRIVE/SCAN
Main_ ucom
EEPROM
VBI/ USB
RST3
RST4
AND
PSW1
RST2
PDET
DCDC/REG
I/O
MSP
D-AMP
EMG_USB
VDEC HDMI ASIC LVDS-Tx
A.D.TUNER COFDEM CIF
AV-SW FAN
RGB-SW AD
Main
RELAY2
"POF"
OR
RELAY
LVDS-Rx DAC SQ ASIC
Module_ ucom
Digital
DRF_B
BAK_EEP
Sensor
X/Y Drive Scan
DRIVE
Address
ASIC
ADDRESS

Remote control unit waiting state. (Red LED: ON)
Standby power devices (periphery of IF/Main/Module microcomputer) operate.

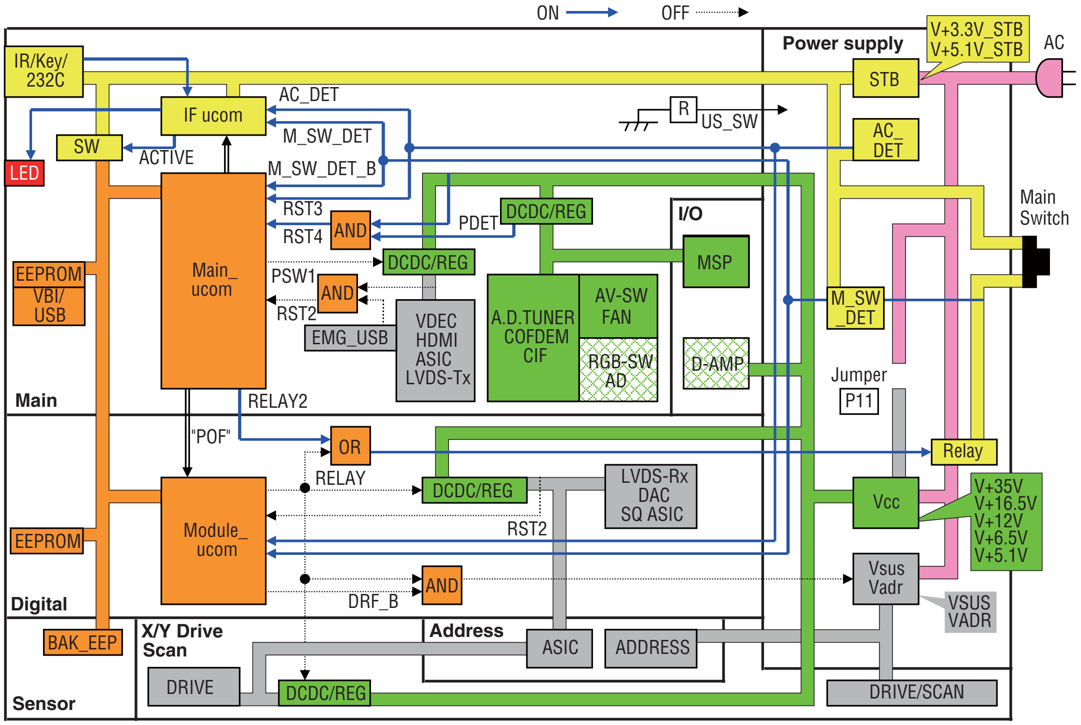
Power supply status - Functional standby

Microcomputer output port state

IF: ACTIVE	ON
Main: RELAY2	ON
Main: PSW1	OFF
Module: RELAY	OFF
Module: DRF_B	OFF

Microcomputer input port state

Main: RST4	ON
Main: RST2	OFF
Module: RST2	OFF


ON
OFF
IR/Key/ 232C
IF ucom
SW
LED
ACTIVE
AC_DET
M_SW_DET
M_SW_DET_B
R
US_SW
Power supply
V+3.3V_STB V+5.1V_STB
AC
STB
AC_ DET
Main Switch
M_SW _DET
Jumper
P11
Relay
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
Vsus Vadr
VSUS VADR
DRIVE/SCAN
Main_ ucom
EEPROM
VBI/ USB
RST3
RST4
AND
PSW1
RST2
PDET
DCDC/REG
I/O
MSP
D-AMP
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VDEC HDMI ASIC LVDS-Tx
A.D.TUNER COFDEM CIF
AV-SW FAN
RGB-SW AD
Main
RELAY2
"POF"
OR
RELAY
LVDS-Rx DAC SQ ASIC
Module_ ucom
Digital
DRF_B
BAK_EEP
Sensor
X/Y Drive Scan
DRIVE
Address
ASIC
ADDRESS

Remote control unit waiting state. (Red LED: ON)
Standby power device and some Vcc power devices operate.
RGB-SW/AD/D-AMP are electrified, but uses the power-saving mode function of the IC.

A

Power supply status - ON

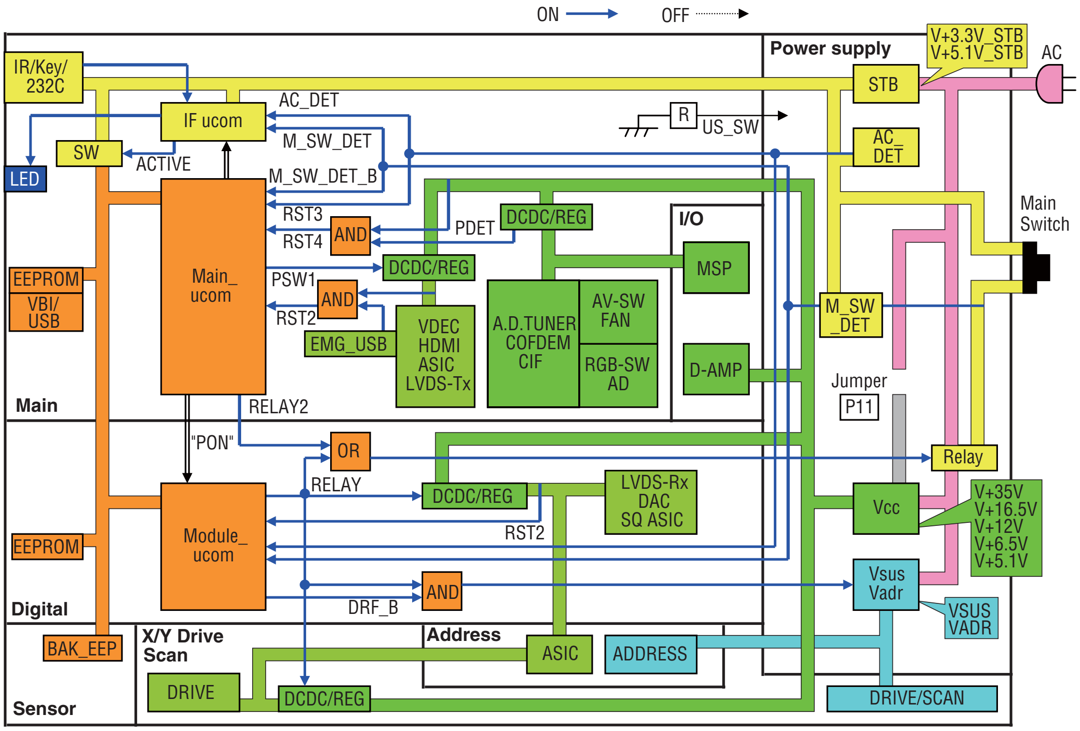
Microcomputer
output port state

IF: ACTIVE	ON
Main: RELAY2	ON
Main: PSW1	ON
Module: RELAY	ON
Module: DRF_B	ON

B

Microcomputer
input port state

Main: RST4	ON
Main: RST2	ON
Module: RST2	ON


ON
OFF
IR/Key/
232C
IF ucom
AC_DET
M_SW_DET
M_SW_DET_B
SW
ACTIVE
LED
R
US_SW
Power supply
V+3.3V_STB
V+5.1V_STB
AC
STB
AC_
DET
Main
Switch
RST3
RST4
AND
PDET
DCDC/REG
I/O
MSP
EEPROM
VBI/
USB
Main_
ucom
PSW1
AND
RST2
DCDC/REG
EMG_USB
VDEC
HDMI
ASIC
LVDS-Tx
A.D.TUNER
COFDEM
CIF
AV-SW
FAN
RGB-SW
AD
D-AMP
M_SW
_DET
Jumper
P11
Main
RELAY2
"PON"
OR
Relay
RELAY
DCDC/REG
LVDS-Rx
DAC
SQ ASIC
Vcc
V+35V
V+16.5V
V+12V
V+6.5V
V+5.1V
EEPROM
Module_
ucom
RST2
Vsus
Vadr
VSUS
VADR
AND
DRF_B
Digital
BAK_EEP
X/Y Drive
Scan
Address
ASIC
ADDRESS
DRIVE
DCDC/REG
DRIVE/SCAN
Sensor

C

A state when it displays a picture on the PDP. (Blue LED: ON)
All devices are electrified.

D

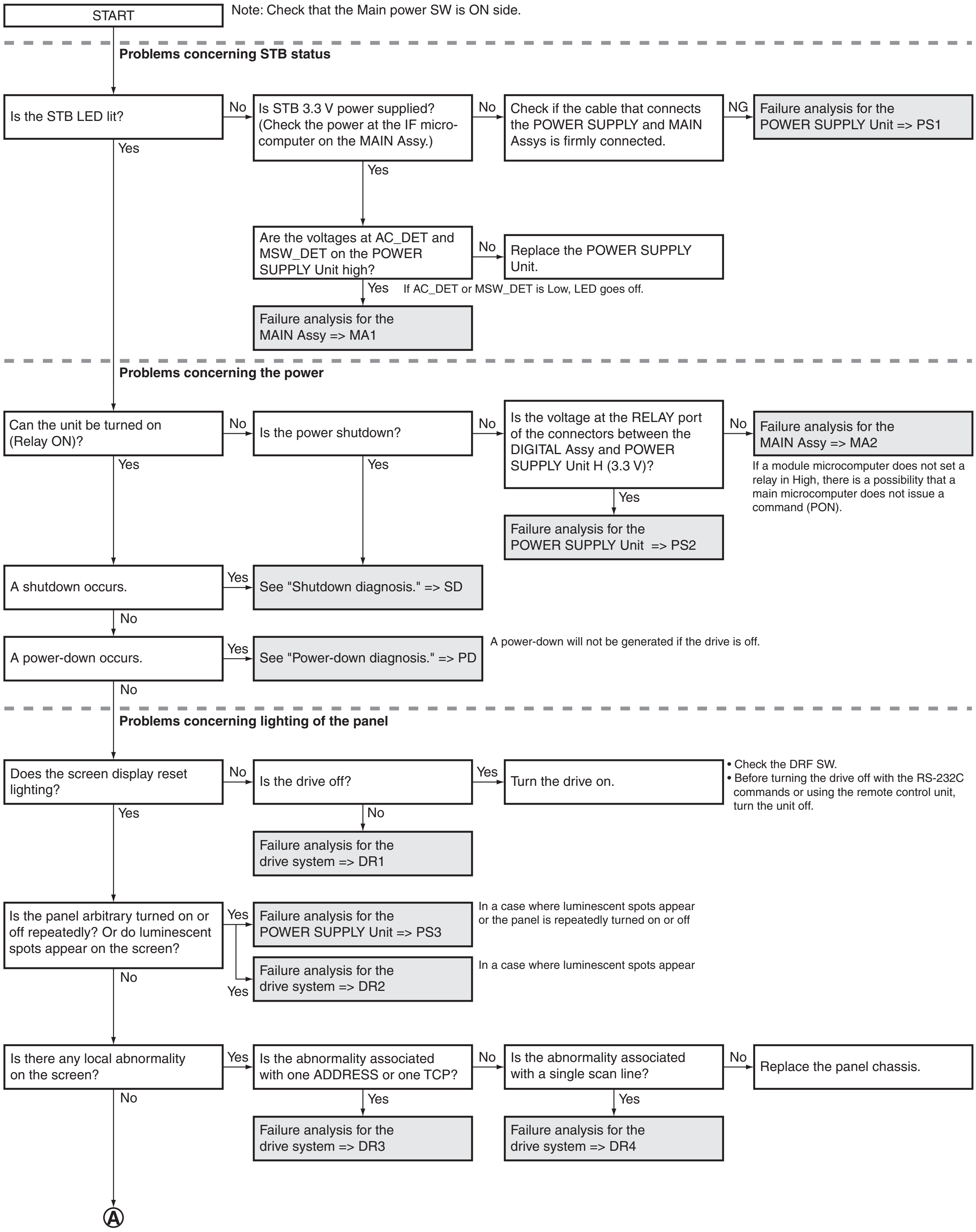
E

F

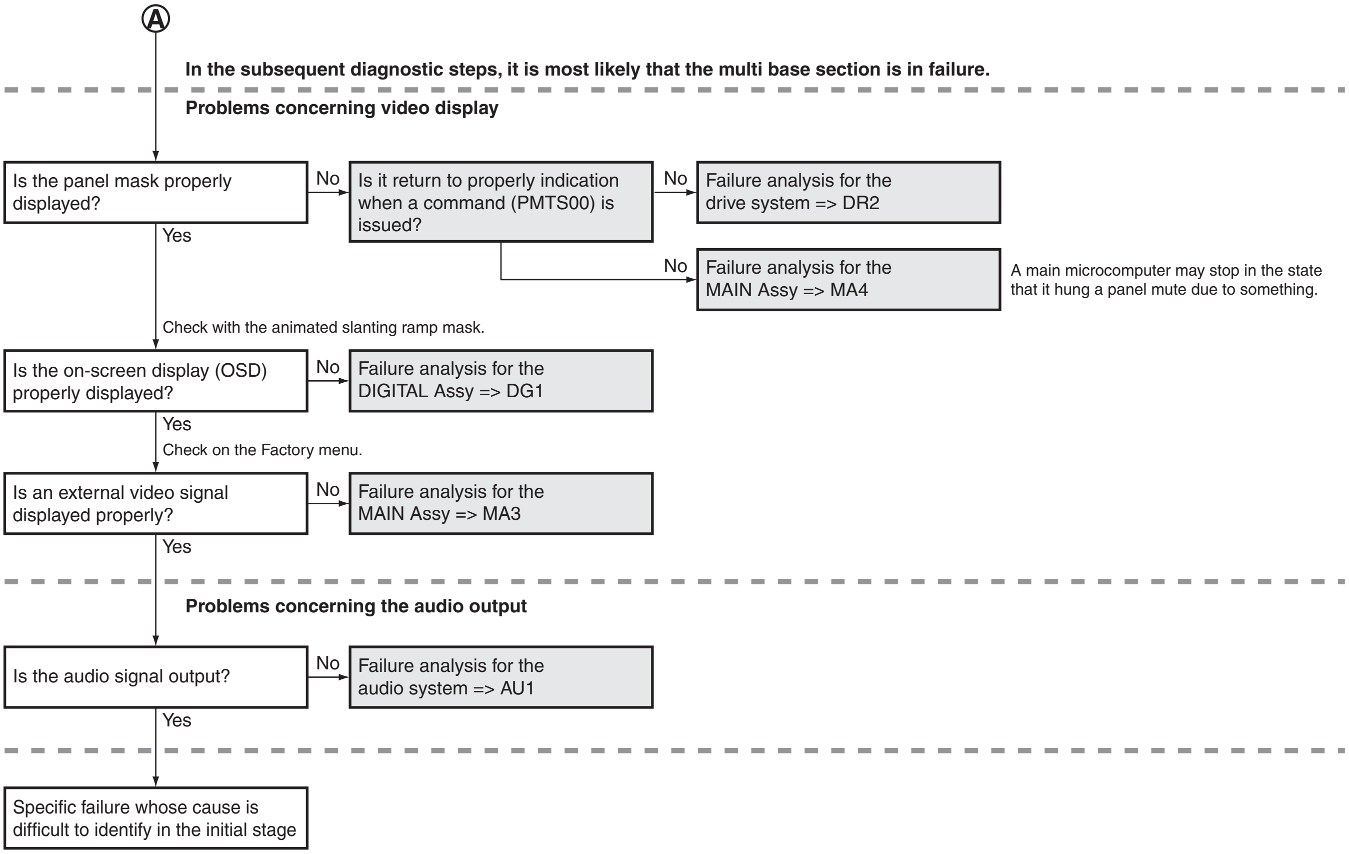
5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS

5.2.1 WHOLE UNIT

Flowchart of Failure Analysis for The Whole Unit


START
Note: Check that the Main power SW is ON side.
Problems concerning STB status
Is the STB LED lit?
No
Is STB 3.3 V power supplied? (Check the power at the IF micro-computer on the MAIN Assy.)
No
Check if the cable that connects the POWER SUPPLY and MAIN Assys is firmly connected.
NG
Failure analysis for the POWER SUPPLY Unit => PS1
Yes
Yes
Are the voltages at AC_DET and MSW_DET on the POWER SUPPLY Unit high?
No
Replace the POWER SUPPLY Unit.
Yes
If AC_DET or MSW_DET is Low, LED goes off.
Failure analysis for the MAIN Assy => MA1
Problems concerning the power
Can the unit be turned on (Relay ON)?
No
Is the power shutdown?
No
Is the voltage at the RELAY port of the connectors between the DIGITAL Assy and POWER SUPPLY Unit H (3.3 V)?
No
Failure analysis for the MAIN Assy => MA2
If a module microcomputer does not set a relay in High, there is a possibility that a main microcomputer does not issue a command (PON).
Yes
Yes
Yes
Failure analysis for the POWER SUPPLY Unit => PS2
A shutdown occurs.
Yes
See "Shutdown diagnosis." => SD
No
A power-down occurs.
Yes
See "Power-down diagnosis." => PD
A power-down will not be generated if the drive is off.
No
Problems concerning lighting of the panel
Does the screen display reset lighting?
No
Is the drive off?
Yes
Turn the drive on.
• Check the DRF SW.
• Before turning the drive off with the RS-232C commands or using the remote control unit, turn the unit off.
Yes
No
Failure analysis for the drive system => DR1
Is the panel arbitrary turned on or off repeatedly? Or do luminescent spots appear on the screen?
Yes
Failure analysis for the POWER SUPPLY Unit => PS3
In a case where luminescent spots appear or the panel is repeatedly turned on or off
Yes
Failure analysis for the drive system => DR2
In a case where luminescent spots appear
No
Is there any local abnormality on the screen?
Yes
Is the abnormality associated with one ADDRESS or one TCP?
No
Is the abnormality associated with a single scan line?
No
Replace the panel chassis.
No
Yes
Failure analysis for the drive system => DR3
Yes
Failure analysis for the drive system => DR4
A

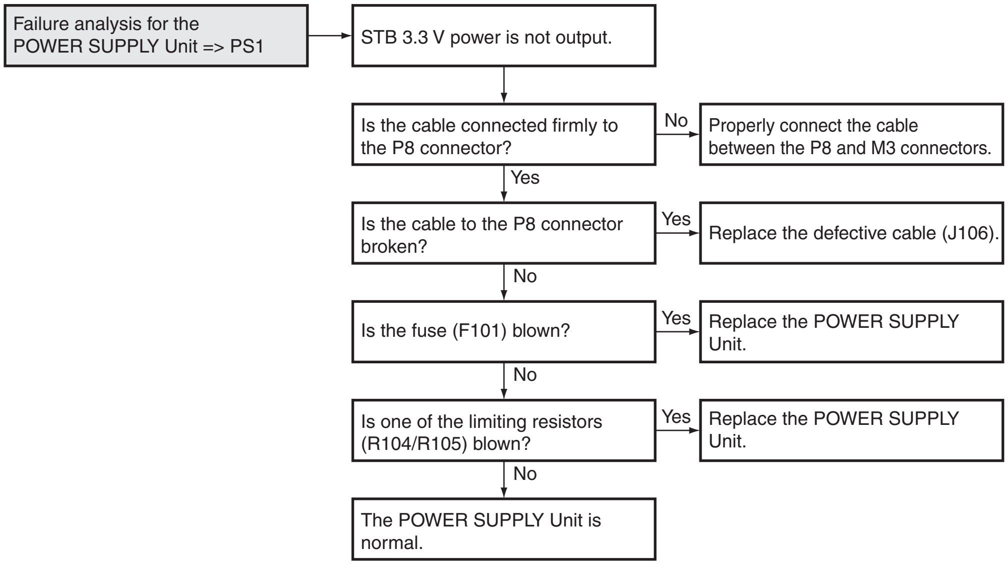
In the subsequent diagnostic steps, it is most likely that the multi base section is in failure.


A
Problems concerning video display
Is the panel mask properly displayed?
No
Is it return to properly indication when a command (PMTS00) is issued?
No
Failure analysis for the drive system => DR2
No
Failure analysis for the MAIN Assy => MA4
Yes
Check with the animated slanting ramp mask.
Is the on-screen display (OSD) properly displayed?
No
Failure analysis for the DIGITAL Assy => DG1
Yes
Check on the Factory menu.
Is an external video signal displayed properly?
No
Failure analysis for the MAIN Assy => MA3
Yes
Problems concerning the audio output
Is the audio signal output?
No
Failure analysis for the audio system => AU1
Yes
Specific failure whose cause is difficult to identify in the initial stage

A main microcomputer may stop in the state that it hung a panel mute due to something.

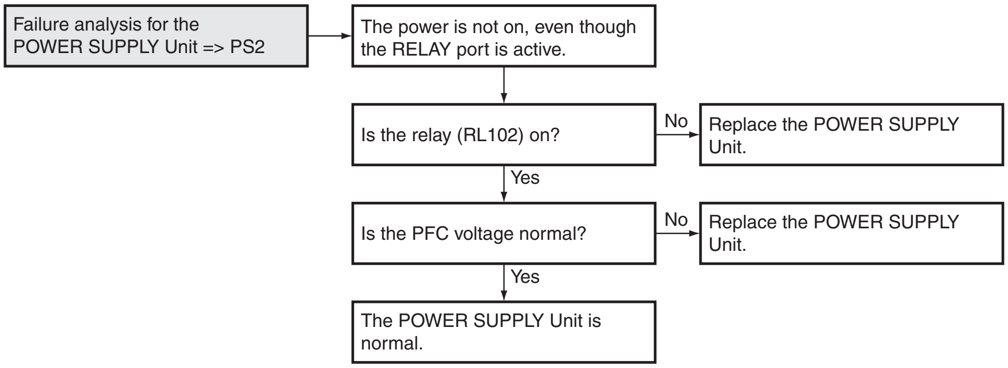
5.2.2 POWER SUPPLY UNIT

Flowchart of Failure Analysis for The POWER SUPPLY Unit


Failure analysis for the POWER SUPPLY Unit => PS1
STB 3.3 V power is not output.
Is the cable connected firmly to the P8 connector?
No
Properly connect the cable between the P8 and M3 connectors.
Yes
Is the cable to the P8 connector broken?
Yes
Replace the defective cable (J106).
No
Is the fuse (F101) blown?
Yes
Replace the POWER SUPPLY Unit.
No
Is one of the limiting resistors (R104/R105) blown?
Yes
Replace the POWER SUPPLY Unit.
No
The POWER SUPPLY Unit is normal.

Check the voltage at the DIGITAL Assy and POWER SUPPLY Unit.

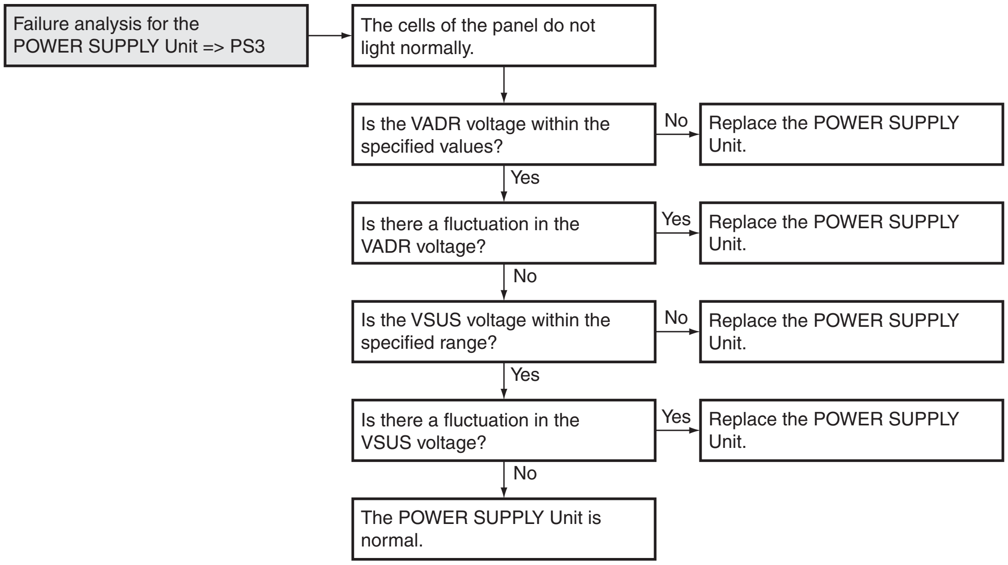
Check the resistance between L102 (lead nearest R104) and the D121 anode, using a tester.


Failure analysis for the POWER SUPPLY Unit => PS2
The power is not on, even though the RELAY port is active.
Is the relay (RL102) on?
No
Replace the POWER SUPPLY Unit.
Yes
Is the PFC voltage normal?
No
Replace the POWER SUPPLY Unit.
Yes
The POWER SUPPLY Unit is normal.

- Check the relay operation at the terminal (Pin 11 of P4). (Voltage: 3.3 V)
- Check the relay sound (click).

- Check the voltage between the D204 cathode and RC101 (negative) terminal.
- The voltage must be around 390 V (failure if it is 340 V or less).

Caution: High voltage!


Failure analysis for the POWER SUPPLY Unit => PS3
The cells of the panel do not light normally.
Is the VADR voltage within the specified values?
No
Replace the POWER SUPPLY Unit.
Yes
Is there a fluctuation in the VADR voltage?
Yes
Replace the POWER SUPPLY Unit.
No
Is the VSUS voltage within the specified range?
No
Replace the POWER SUPPLY Unit.
Yes
Is there a fluctuation in the VSUS voltage?
Yes
Replace the POWER SUPPLY Unit.
No
The POWER SUPPLY Unit is normal.

The specified voltage values are between 57 and 63 V.

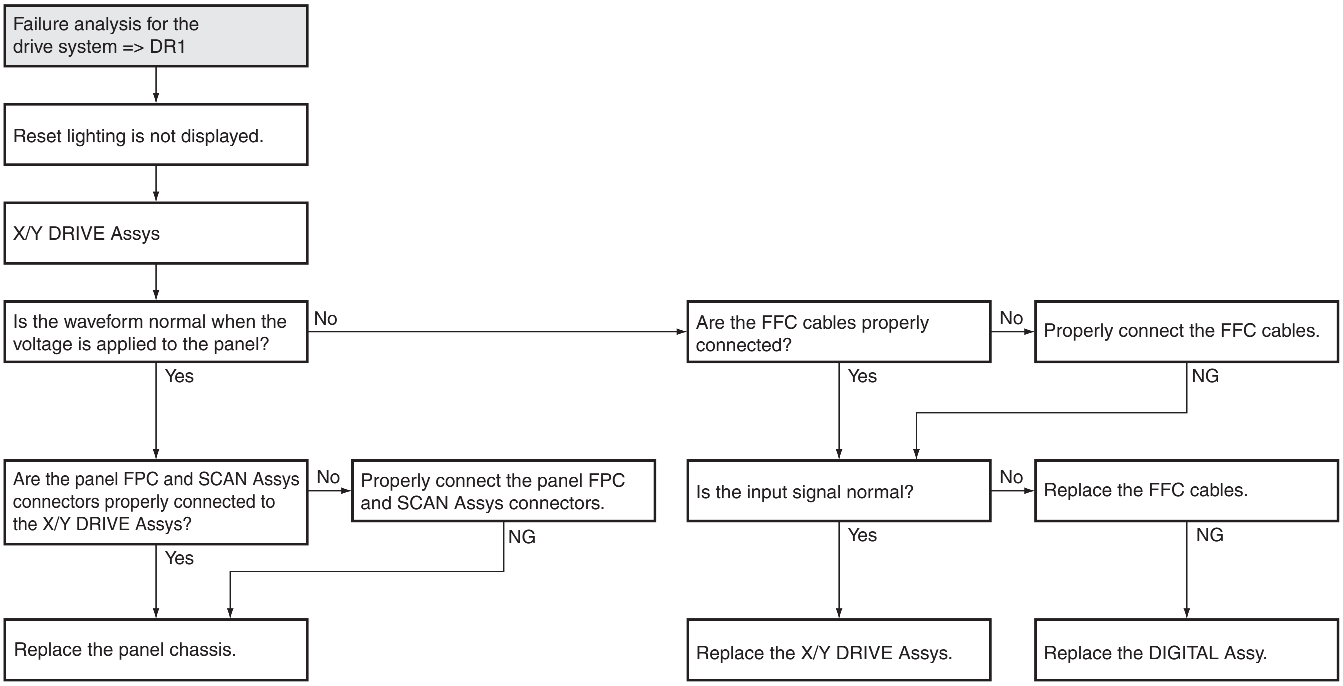
The ripple must be within 5 V.

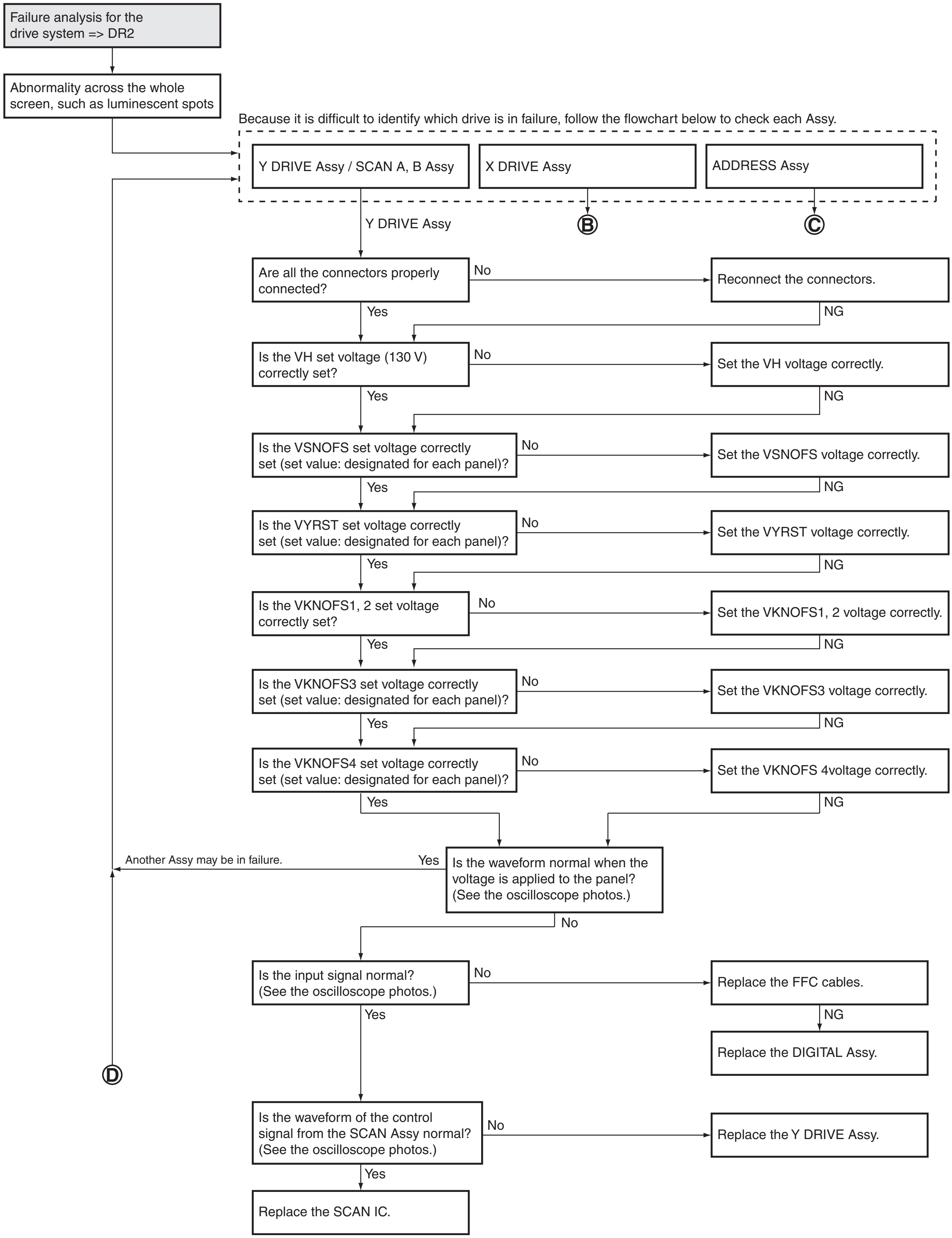
The specified voltage values are between 200 and 210 V (VSU: 125/35°C).

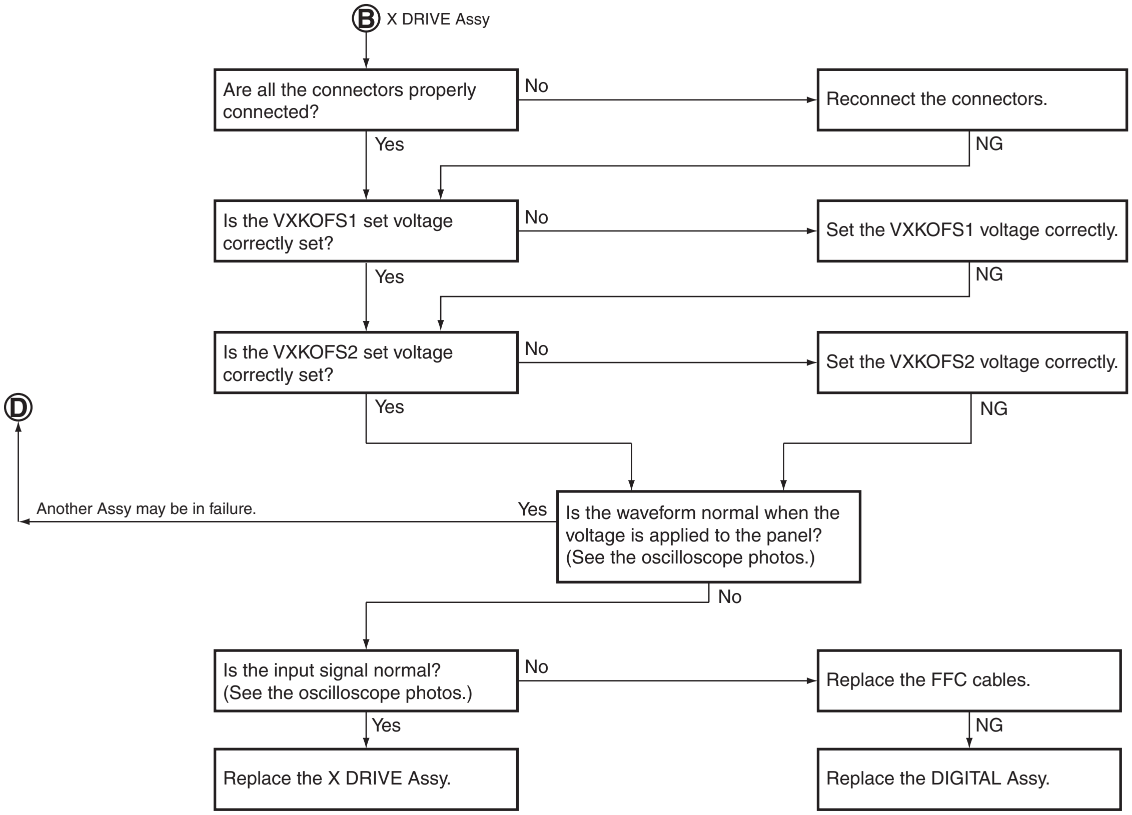
The ripple must be within 10 V.

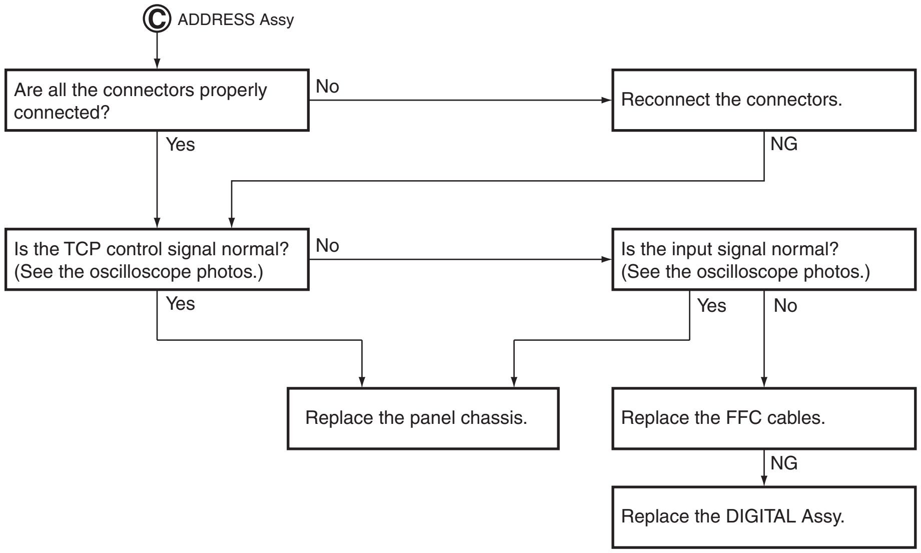
5.2.3 DRIVE ASSY

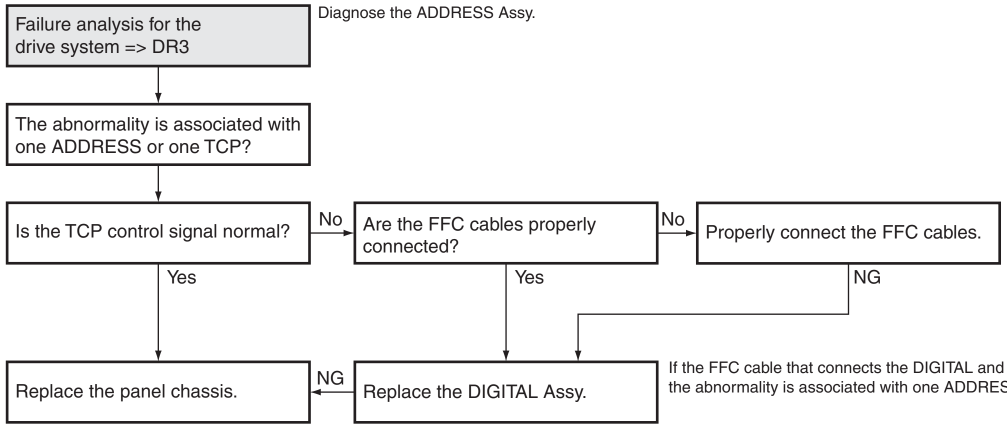
Flowchart of Failure Analysis for The Drive Assy


Failure analysis for the drive system => DR1
Reset lighting is not displayed.
X/Y DRIVE Assys
Is the waveform normal when the voltage is applied to the panel?
No
Yes
Are the FFC cables properly connected?
No
Properly connect the FFC cables.
Yes
NG
Are the panel FPC and SCAN Assys connectors properly connected to the X/Y DRIVE Assys?
No
Properly connect the panel FPC and SCAN Assys connectors.
NG
Yes
Is the input signal normal?
No
Replace the FFC cables.
Yes
NG
Replace the panel chassis.
Replace the X/Y DRIVE Assys.
Replace the DIGITAL Assy.


Failure analysis for the drive system => DR2
Abnormality across the whole screen, such as luminescent spots
Because it is difficult to identify which drive is in failure, follow the flowchart below to check each Assy.
Y DRIVE Assy / SCAN A, B Assy
X DRIVE Assy
ADDRESS Assy
Y DRIVE Assy
Ⓑ
Ⓒ
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
NG
Is the VH set voltage (130 V) correctly set?
No
Set the VH voltage correctly.
Yes
NG
Is the VSNOFS set voltage correctly set (set value: designated for each panel)?
No
Set the VSNOFS voltage correctly.
Yes
NG
Is the VYRST set voltage correctly set (set value: designated for each panel)?
No
Set the VYRST voltage correctly.
Yes
NG
Is the VKNOFS1, 2 set voltage correctly set?
No
Set the VKNOFS1, 2 voltage correctly.
Yes
NG
Is the VKNOFS3 set voltage correctly set (set value: designated for each panel)?
No
Set the VKNOFS3 voltage correctly.
Yes
NG
Is the VKNOFS4 set voltage correctly set (set value: designated for each panel)?
No
Set the VKNOFS 4voltage correctly.
Yes
NG
Another Assy may be in failure.
Yes
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
NG
Replace the DIGITAL Assy.
Yes
Ⓓ
Is the waveform of the control signal from the SCAN Assy normal? (See the oscilloscope photos.)
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.


B X DRIVE Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
NG
Is the VXKOFS1 set voltage correctly set?
No
Set the VXKOFS1 voltage correctly.
Yes
NG
Is the VXKOFS2 set voltage correctly set?
No
Set the VXKOFS2 voltage correctly.
D
Yes
NG
Another Assy may be in failure.
Yes
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
Yes
NG
Replace the X DRIVE Assy.
Replace the DIGITAL Assy.

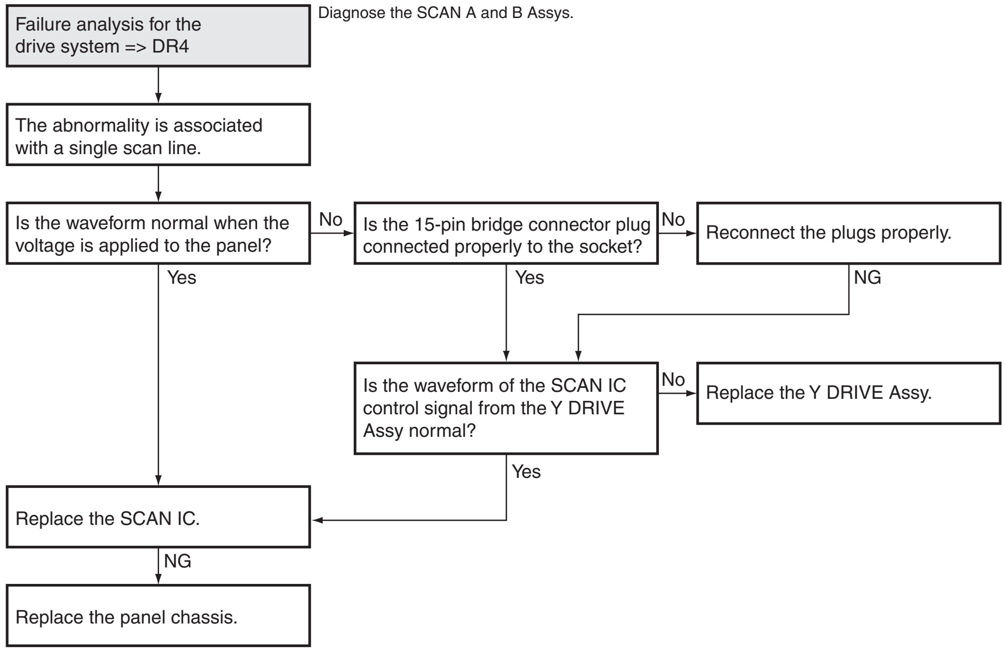

C ADDRESS Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
NG
Is the TCP control signal normal? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
Yes
Yes
No
Replace the panel chassis.
Replace the FFC cables.
NG
Replace the DIGITAL Assy.


Failure analysis for the drive system => DR3
The abnormality is associated with one ADDRESS or one TCP?
Is the TCP control signal normal?
No
Are the FFC cables properly connected?
No
Properly connect the FFC cables.
Yes
Yes
NG
Replace the panel chassis.
NG
Replace the DIGITAL Assy.

Diagnose the ADDRESS Assy.

If the FFC cable that connects the DIGITAL and ADDRESS Assys is in failure, the abnormality is associated with one ADDRESS in most cases.

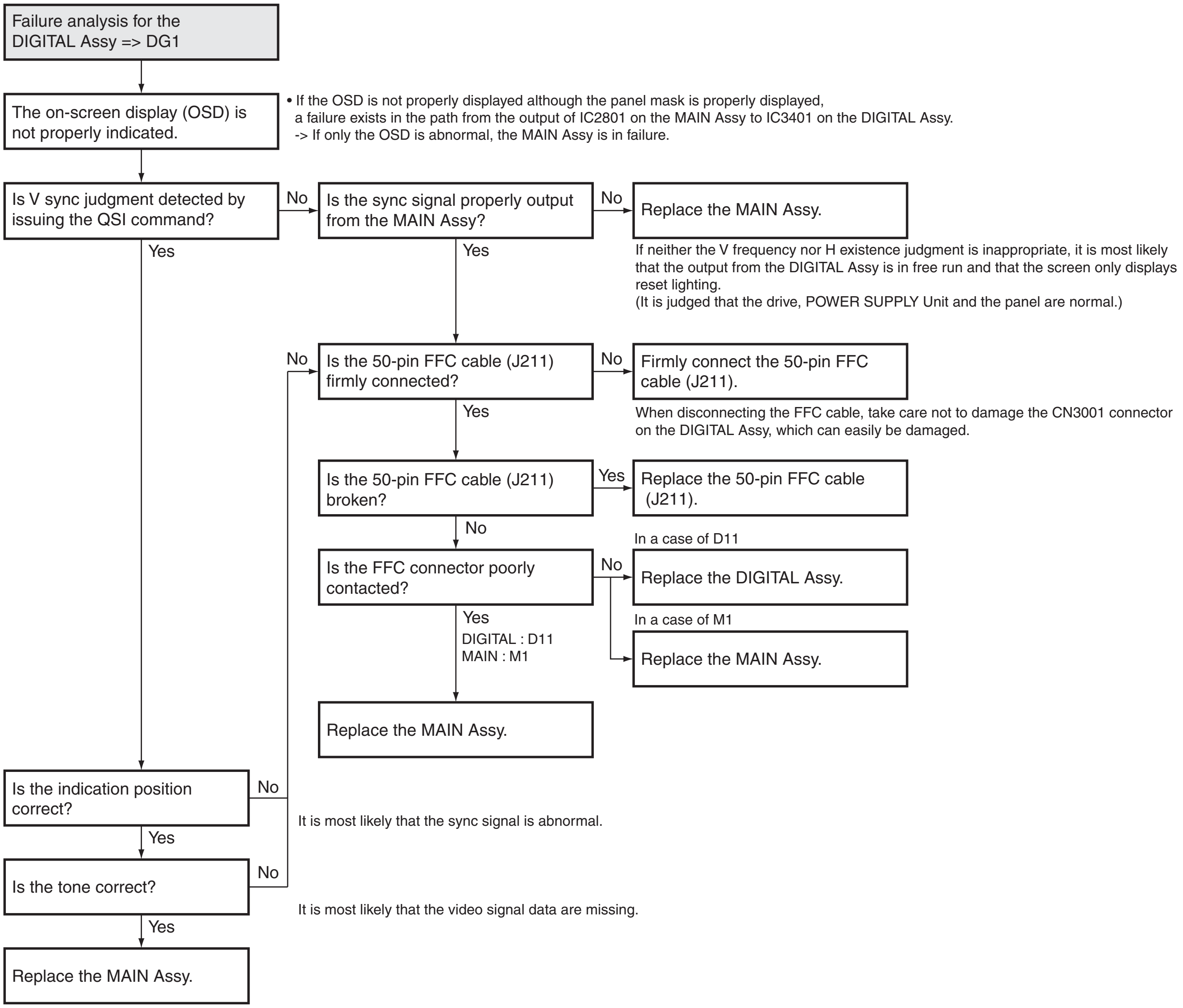
In most cases of damage on one line, the panel chassis must be replaced.


Failure analysis for the drive system => DR4
The abnormality is associated with a single scan line.
Is the waveform normal when the voltage is applied to the panel?
No
Is the 15-pin bridge connector plug connected properly to the socket?
No
Reconnect the plugs properly.
Yes
Yes
NG
Is the waveform of the SCAN IC control signal from the Y DRIVE Assy normal?
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.
NG
Replace the panel chassis.

Diagnose the SCAN A and B Assys.

5.2.4 DIGITAL ASSY

Flowchart of Failure Analysis for The DIGITAL Assy


Failure analysis for the DIGITAL Assy => DG1
The on-screen display (OSD) is not properly indicated.
Is V sync judgment detected by issuing the QSI command?
No
Is the sync signal properly output from the MAIN Assy?
No
Replace the MAIN Assy.
Yes
Yes
No
Is the 50-pin FFC cable (J211) firmly connected?
No
Firmly connect the 50-pin FFC cable (J211).
Yes
Is the 50-pin FFC cable (J211) broken?
Yes
Replace the 50-pin FFC cable (J211).
No
Is the FFC connector poorly contacted?
No
In a case of D11
Replace the DIGITAL Assy.
In a case of M1
Replace the MAIN Assy.
Yes
DIGITAL : D11
MAIN : M1
Replace the MAIN Assy.
Is the indication position correct?
No
Yes
Is the tone correct?
No
Yes
Replace the MAIN Assy.

- If the OSD is not properly displayed although the panel mask is properly displayed, a failure exists in the path from the output of IC2801 on the MAIN Assy to IC3401 on the DIGITAL Assy.
  -> If only the OSD is abnormal, the MAIN Assy is in failure.

If neither the V frequency nor H existence judgment is inappropriate, it is most likely that the output from the DIGITAL Assy is in free run and that the screen only displays reset lighting.
(It is judged that the drive, POWER SUPPLY Unit and the panel are normal.)

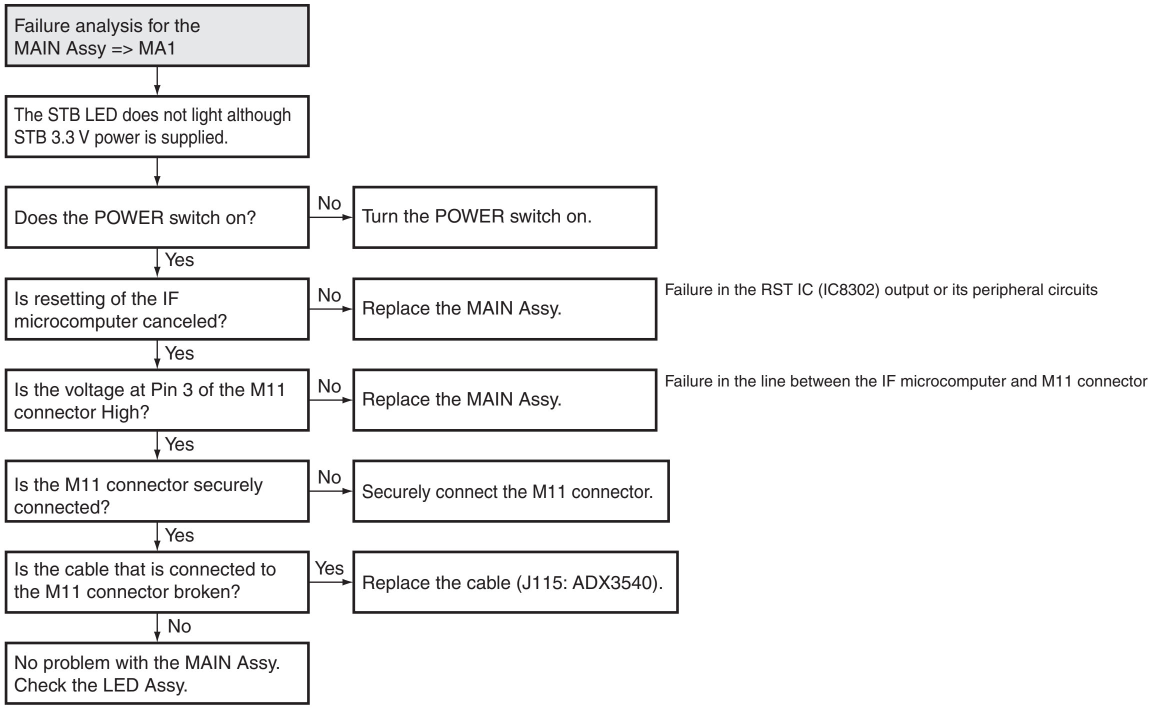
When disconnecting the FFC cable, take care not to damage the CN3001 connector on the DIGITAL Assy, which can easily be damaged.

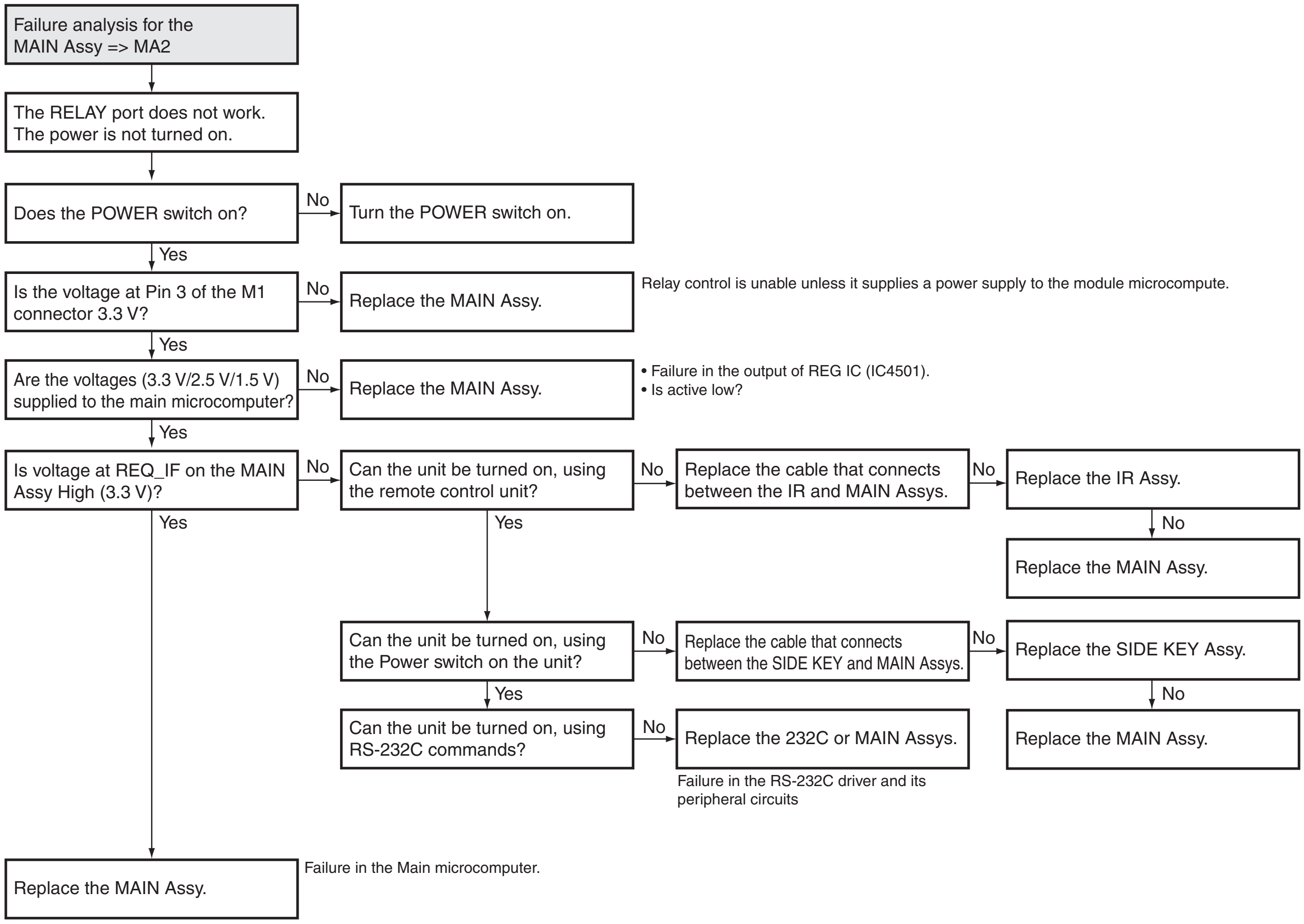
It is most likely that the sync signal is abnormal.

It is most likely that the video signal data are missing.

5.2.5 MAIN ASSY

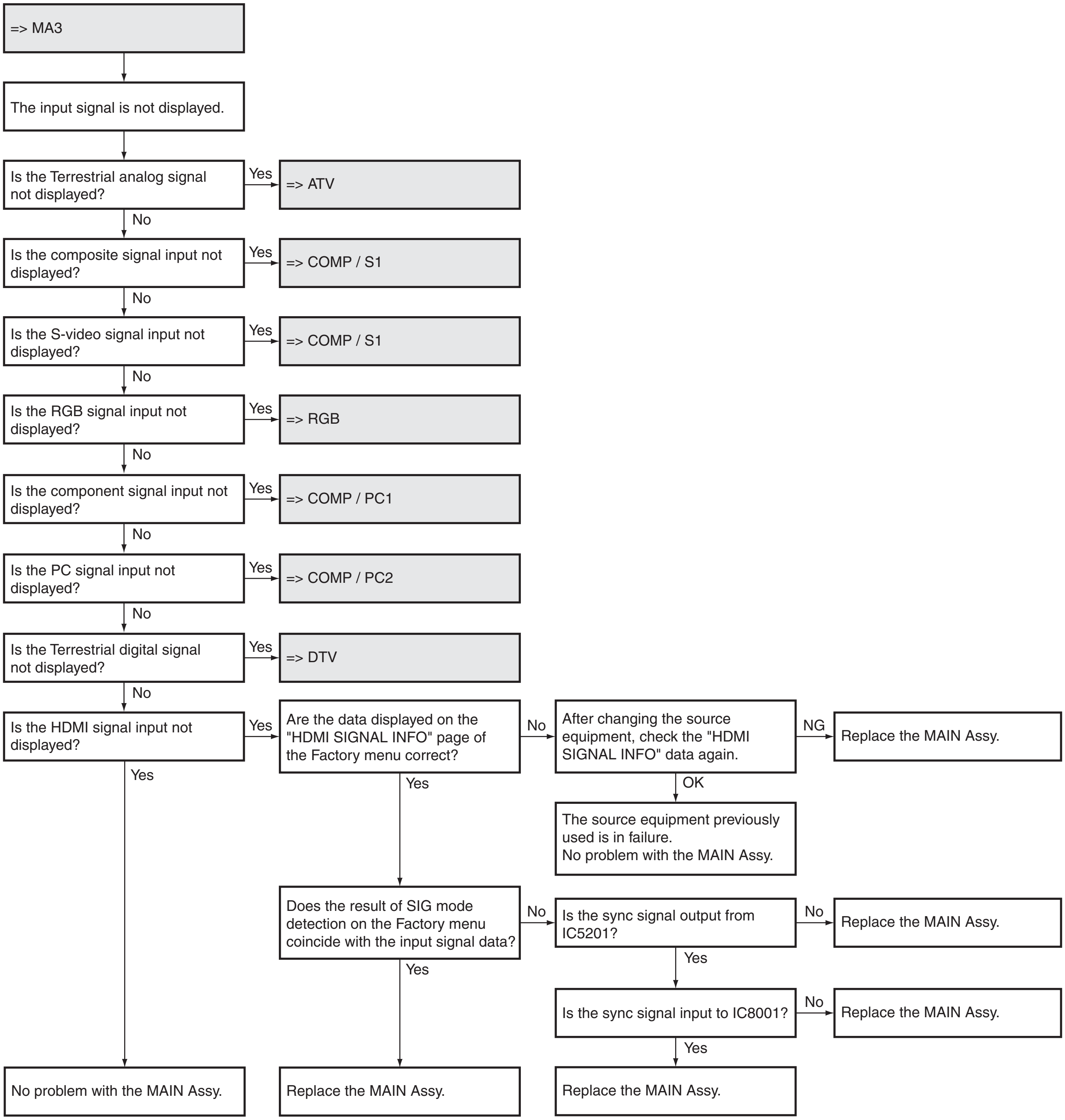
Flowchart of Failure Analysis for The MAIN Assy


Failure analysis for the MAIN Assy => MA1
The STB LED does not light although STB 3.3 V power is supplied.
Does the POWER switch on?
No
Turn the POWER switch on.
Yes
Is resetting of the IF microcomputer canceled?
No
Replace the MAIN Assy.
Failure in the RST IC (IC8302) output or its peripheral circuits
Yes
Is the voltage at Pin 3 of the M11 connector High?
No
Replace the MAIN Assy.
Failure in the line between the IF microcomputer and M11 connector
Yes
Is the M11 connector securely connected?
No
Securely connect the M11 connector.
Yes
Is the cable that is connected to the M11 connector broken?
Yes
Replace the cable (J115: ADX3540).
No
No problem with the MAIN Assy. Check the LED Assy.

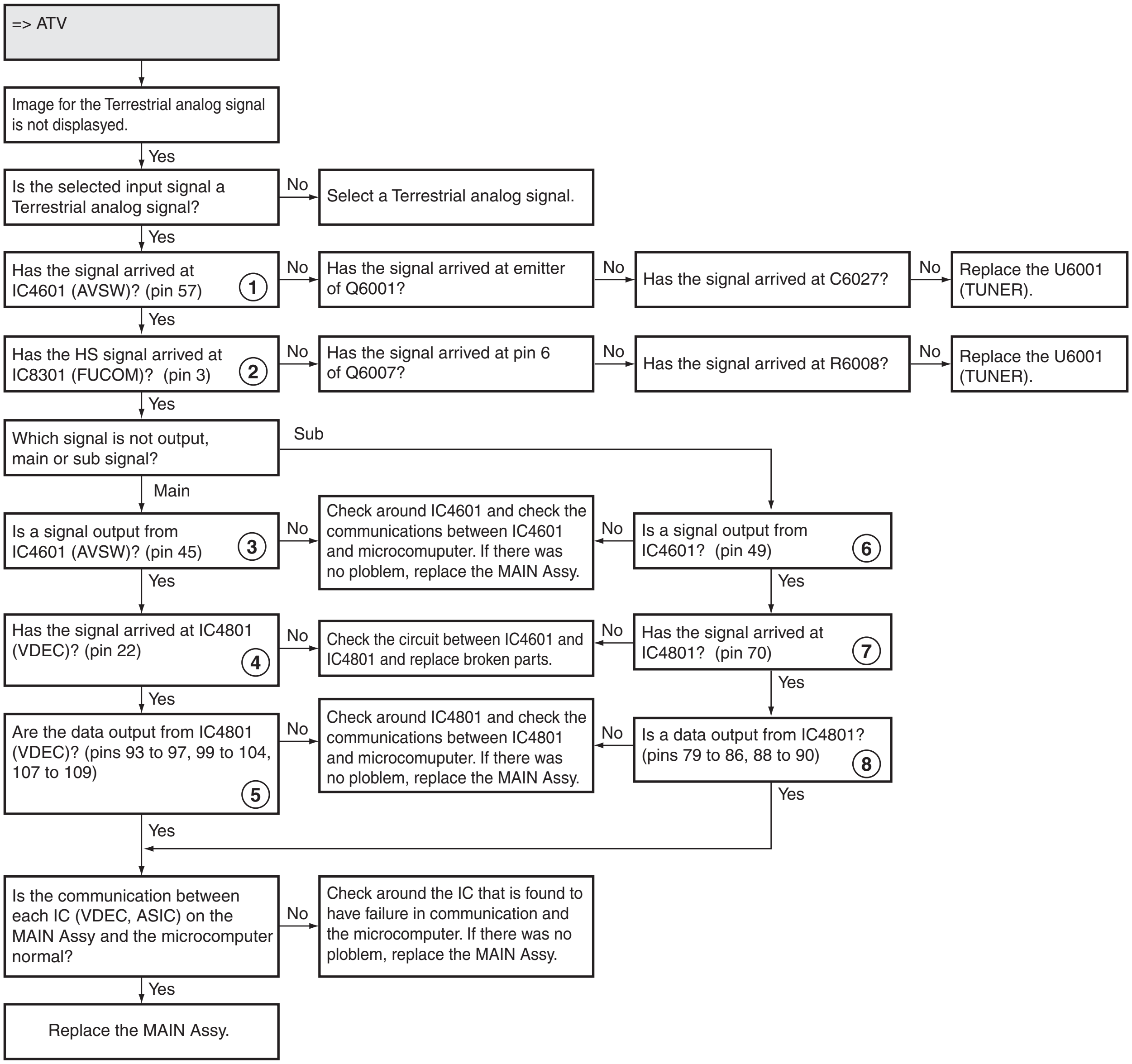

Failure analysis for the MAIN Assy => MA2
The RELAY port does not work. The power is not turned on.
Does the POWER switch on?
No
Turn the POWER switch on.
Yes
Is the voltage at Pin 3 of the M1 connector 3.3 V?
No
Replace the MAIN Assy.
Relay control is unable unless it supplies a power supply to the module microcompute.
Yes
Are the voltages (3.3 V/2.5 V/1.5 V) supplied to the main microcomputer?
No
Replace the MAIN Assy.
• Failure in the output of REG IC (IC4501).
• Is active low?
Yes
Is voltage at REQ_IF on the MAIN Assy High (3.3 V)?
No
Can the unit be turned on, using the remote control unit?
No
Replace the cable that connects between the IR and MAIN Assys.
No
Replace the IR Assy.
No
Replace the MAIN Assy.
Yes
Can the unit be turned on, using the Power switch on the unit?
No
Replace the cable that connects between the SIDE KEY and MAIN Assys.
No
Replace the SIDE KEY Assy.
No
Replace the MAIN Assy.
Yes
Can the unit be turned on, using RS-232C commands?
No
Replace the 232C or MAIN Assys.
Failure in the RS-232C driver and its peripheral circuits
Yes
Replace the MAIN Assy.
Failure in the Main microcomputer.

5.2.6 VIDEO SYSTEM

Flowchart of Failure Analysis for The Video System


=> MA3
The input signal is not displayed.
Is the Terrestrial analog signal not displayed?
Yes
=> ATV
No
Is the composite signal input not displayed?
Yes
=> COMP / S1
No
Is the S-video signal input not displayed?
Yes
=> COMP / S1
No
Is the RGB signal input not displayed?
Yes
=> RGB
No
Is the component signal input not displayed?
Yes
=> COMP / PC1
No
Is the PC signal input not displayed?
Yes
=> COMP / PC2
No
Is the Terrestrial digital signal not displayed?
Yes
=> DTV
No
Is the HDMI signal input not displayed?
Yes
Are the data displayed on the "HDMI SIGNAL INFO" page of the Factory menu correct?
No
After changing the source equipment, check the "HDMI SIGNAL INFO" data again.
NG
Replace the MAIN Assy.
OK
The source equipment previously used is in failure.
No problem with the MAIN Assy.
Yes
Does the result of SIG mode detection on the Factory menu coincide with the input signal data?
No
Is the sync signal output from IC5201?
No
Replace the MAIN Assy.
Yes
Is the sync signal input to IC8001?
No
Replace the MAIN Assy.
Yes
Replace the MAIN Assy.
Yes
Replace the MAIN Assy.
Yes
No problem with the MAIN Assy.

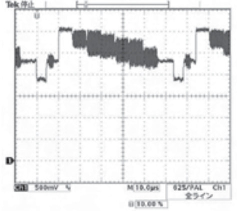
Flowchart of Failure Analysis for The Video System


=> ATV
Image for the Terrestrial analog signal is not displasyed.
Yes
Is the selected input signal a Terrestrial analog signal?
No
Select a Terrestrial analog signal.
Yes
Has the signal arrived at IC4601 (AVSW)? (pin 57) ①
No
Has the signal arrived at emitter of Q6001?
No
Has the signal arrived at C6027?
No
Replace the U6001 (TUNER).
Yes
Has the HS signal arrived at IC8301 (FUCOM)? (pin 3) ②
No
Has the signal arrived at pin 6 of Q6007?
No
Has the signal arrived at R6008?
No
Replace the U6001 (TUNER).
Yes
Which signal is not output, main or sub signal?
Sub
Main
Is a signal output from IC4601 (AVSW)? (pin 45) ③
No
Check around IC4601 and check the communications between IC4601 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
No
Is a signal output from IC4601? (pin 49) ⑥
Yes
Yes
Has the signal arrived at IC4801 (VDEC)? (pin 22) ④
No
Check the circuit between IC4601 and IC4801 and replace broken parts.
No
Has the signal arrived at IC4801? (pin 70) ⑦
Yes
Yes
Are the data output from IC4801 (VDEC)? (pins 93 to 97, 99 to 104, 107 to 109) ⑤
No
Check around IC4801 and check the communications between IC4801 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
No
Is a data output from IC4801? (pins 79 to 86, 88 to 90) ⑧
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

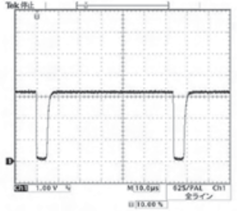
● Waveforms

Input signal: PAL Color-bar (Analog tuner)

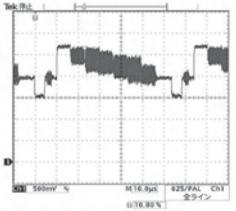
① **IC4601 - pin 57**
V: 500 mV/div H: 10 µS/div



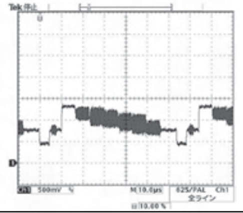
② **IC8301 - pin 3**
V: 1 V/div H: 10 µS/div



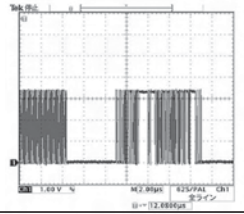
③ **IC4601 - pin 45**
V: 500 mV/div H: 10 µS/div



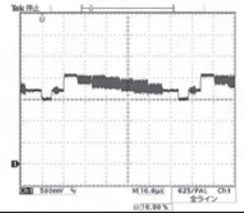
④ **IC4801 - pin 22**
V: 500 mV/div H: 10 µS/div



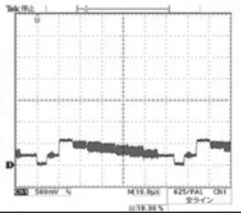
⑤ **IC4801 - pin 93, etc.**
V: 1 V/div H: 2 µS/div



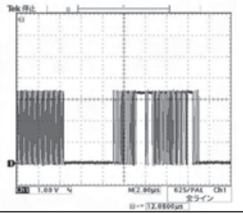
⑥ **IC4601 - pin 49**
V: 500 mV/div H: 10 µS/div



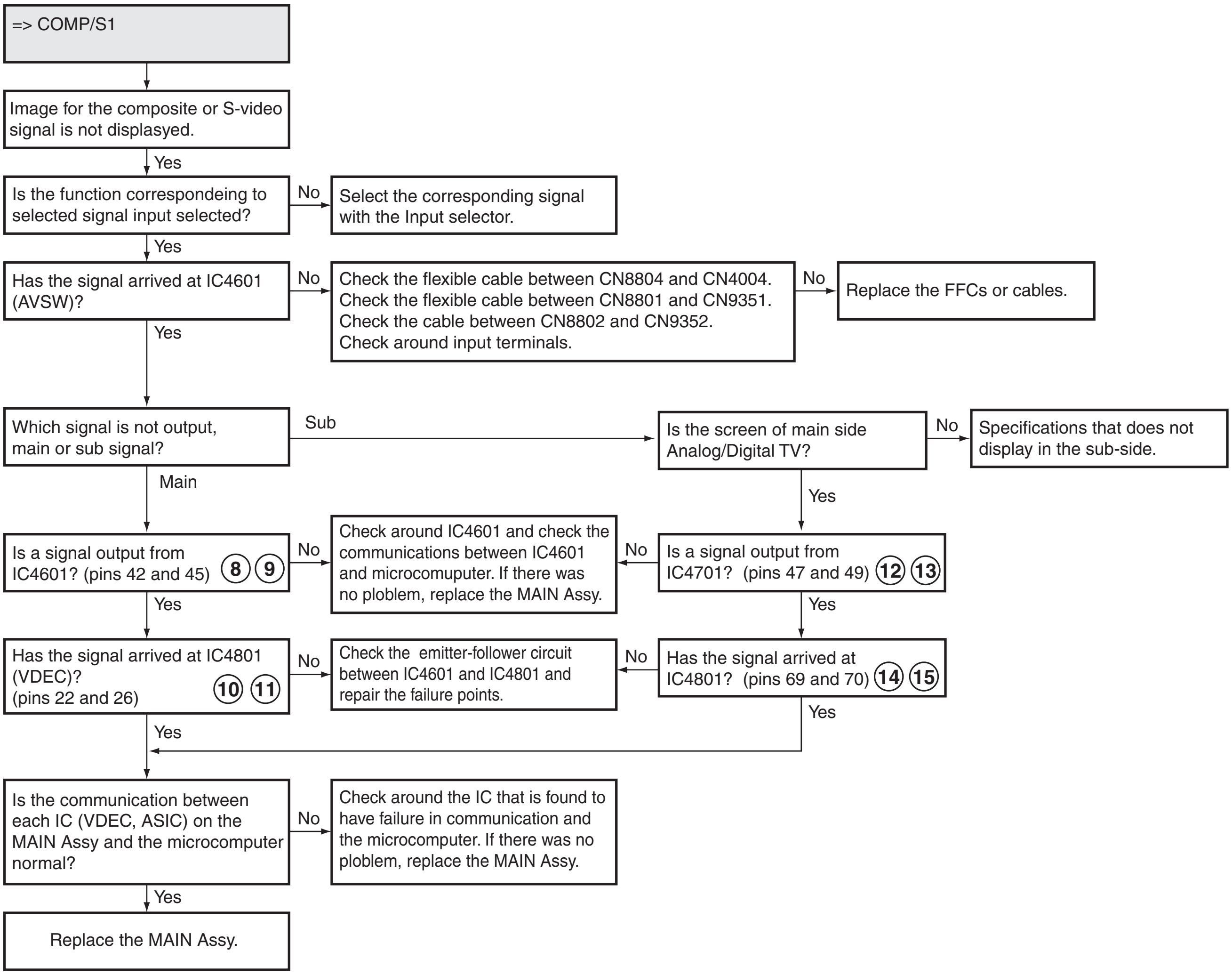
⑦ **IC4801 - pin 70**
V: 500 mV/div H: 10 µS/div



⑧ **IC4801 - pin 79, etc.**
V: 500 mV/div H: 10 µS/div



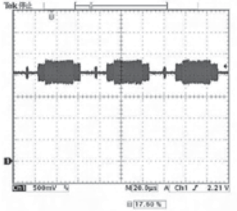
Flowchart of Failure Analysis for The Video System


=> COMP/S1
Image for the composite or S-video signal is not displasyed.
Yes
Is the function correspondeing to selected signal input selected?
No
Select the corresponding signal with the Input selector.
Yes
Has the signal arrived at IC4601 (AVSW)?
No
Check the flexible cable between CN8804 and CN4004.
Check the flexible cable between CN8801 and CN9351.
Check the cable between CN8802 and CN9352.
Check around input terminals.
No
Replace the FFCs or cables.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Main
Yes
Is a signal output from IC4601? (pins 42 and 45) ⑧ ⑨
No
Check around IC4601 and check the communications between IC4601 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
No
Is a signal output from IC4701? (pins 47 and 49) ⑫ ⑬
Yes
Yes
Has the signal arrived at IC4801 (VDEC)? (pins 22 and 26) ⑩ ⑪
No
Check the emitter-follower circuit between IC4601 and IC4801 and repair the failure points.
No
Has the signal arrived at IC4801? (pins 69 and 70) ⑭ ⑮
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

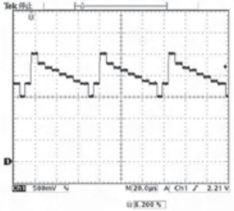
• Waveforms

Input signal: PAL Color-bar (S terminal)

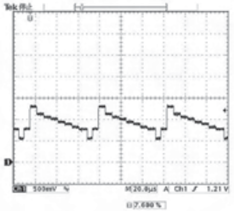
⑧ **IC4601 - pin 42**
V: 500 mV/div H: 20 µS/div



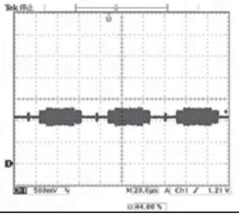
⑨ **IC4601 - pin 45**
V: 500 mV/div H: 20 µS/div



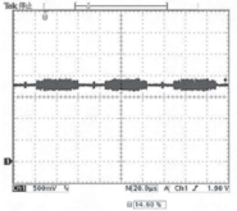
⑩ **IC4801 - pin 22**
V: 500 mV/div H: 20 µS/div



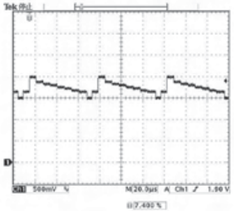
⑪ **IC4801 - pin 26**
V: 500 mV/div H: 20 µS/div



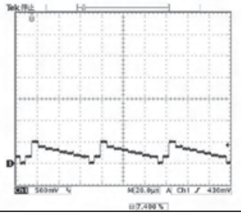
⑫ **IC4701 - pin 47**
V: 500 mV/div H: 20 µS/div



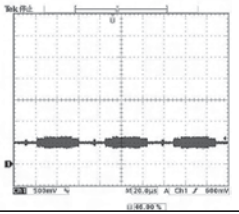
⑬ **IC4701 - pin 49**
V: 500 mV/div H: 20 µS/div



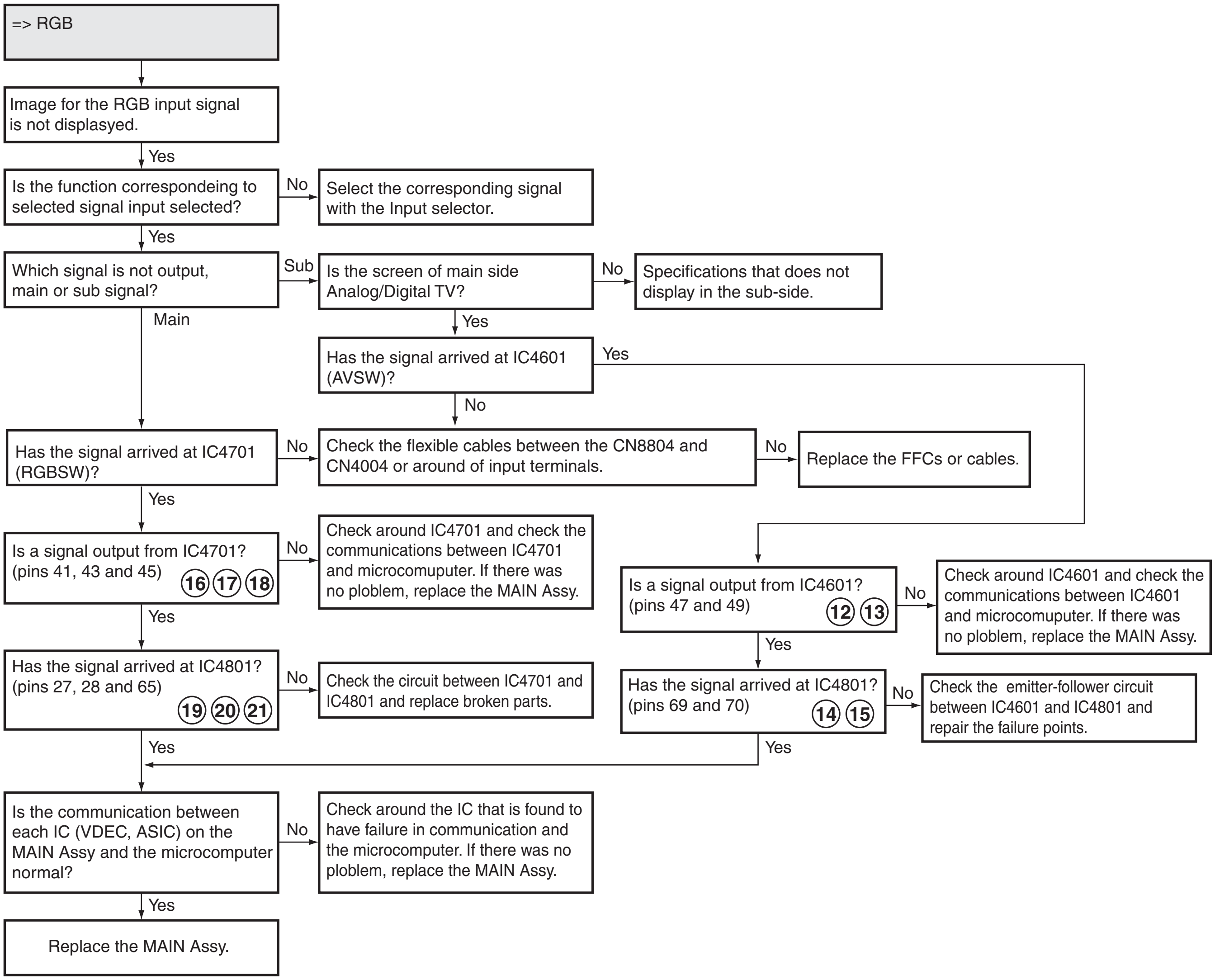
⑭ **IC4801 - pin 69**
V: 500 mV/div H: 20 µS/div



⑮ **IC4801 - pin 70**
V: 500 mV/div H: 20 µS/div



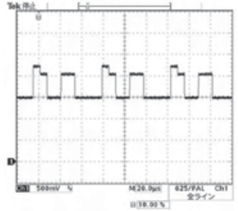
Flowchart of Failure Analysis for The Video System


=> RGB
Image for the RGB input signal is not displasyed.
Yes
Is the function correspondeing to selected signal input selected?
No
Select the corresponding signal with the Input selector.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Yes
Has the signal arrived at IC4601 (AVSW)?
Yes
No
Main
Has the signal arrived at IC4701 (RGBSW)?
No
Check the flexible cables between the CN8804 and CN4004 or around of input terminals.
No
Replace the FFCs or cables.
Yes
Is a signal output from IC4701? (pins 41, 43 and 45) ⑯⑰⑱
No
Check around IC4701 and check the communications between IC4701 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
Is a signal output from IC4601? (pins 47 and 49) ⑫⑬
No
Check around IC4601 and check the communications between IC4601 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
Yes
Has the signal arrived at IC4801? (pins 27, 28 and 65) ⑲⑳㉑
No
Check the circuit between IC4701 and IC4801 and replace broken parts.
Yes
Has the signal arrived at IC4801? (pins 69 and 70) ⑭⑮
No
Check the emitter-follower circuit between IC4601 and IC4801 and repair the failure points.
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

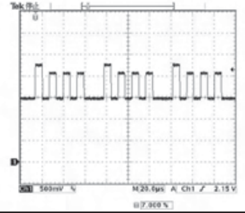
- **Waveforms**

Input signal: PAL Color-bar (SCART RGB terminal)

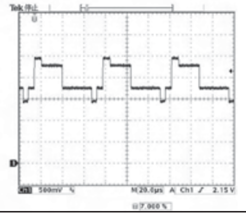
⑯ **IC4701 - pin 41**
V: 500 mV/div H: 20 µS/div



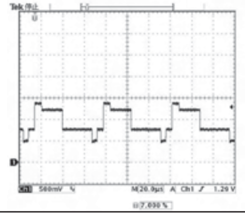
⑰ **IC4701 - pin 43**
V: 500 mV/div H: 20 µS/div



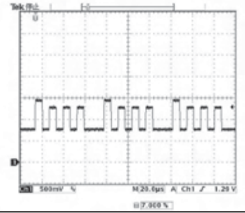
⑱ **IC4701 - pin 45**
V: 500 mV/div H: 20 µS/div



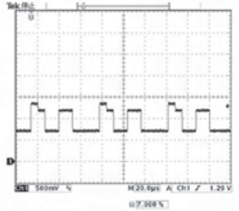
⑲ **IC4801 - pin 27**
V: 500 mV/div H: 20 µS/div



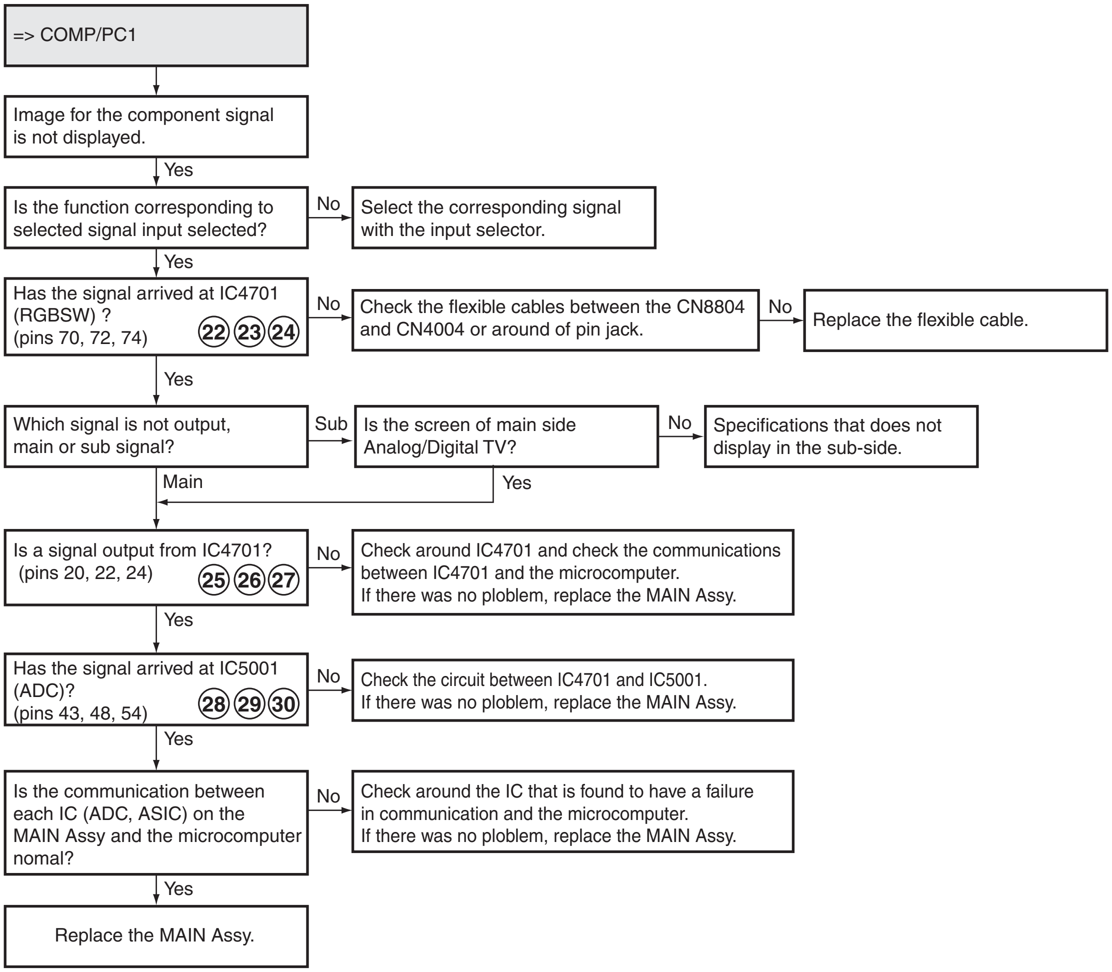
⑳ **IC4801 - pin 28**
V: 500 mV/div H: 20 µS/div



㉑ **IC4801 - pin 65**
V: 500 mV/div H: 20 µS/div



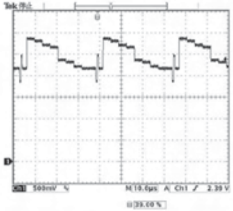
Flowchart of Failure Analysis for The Video System


=> COMP/PC1
Image for the component signal is not displayed.
Yes
Is the function corresponding to selected signal input selected?
No
Select the corresponding signal with the input selector.
Yes
Has the signal arrived at IC4701 (RGBSW) ? (pins 70, 72, 74) ㉒㉓㉔
No
Check the flexible cables between the CN8804 and CN4004 or around of pin jack.
No
Replace the flexible cable.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Main
Yes
Is a signal output from IC4701? (pins 20, 22, 24) ㉕㉖㉗
No
Check around IC4701 and check the communications between IC4701 and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Has the signal arrived at IC5001 (ADC)? (pins 43, 48, 54) ㉘㉙㉚
No
Check the circuit between IC4701 and IC5001. If there was no ploblem, replace the MAIN Assy.
Yes
Is the communication between each IC (ADC, ASIC) on the MAIN Assy and the microcomputer nomal?
No
Check around the IC that is found to have a failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

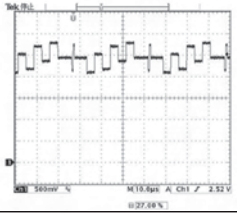
• Waveforms

Input signal: Color-bar (Component 1080i)

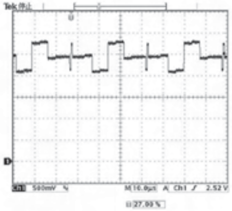
㉒ **IC4701 - pin 70**
V: 500 mV/div H: 10 µS/div



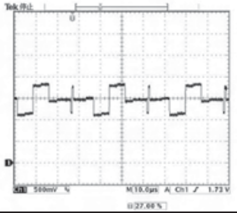
㉓ **IC4701 - pin 72**
V: 500 mV/div H: 10 µS/div



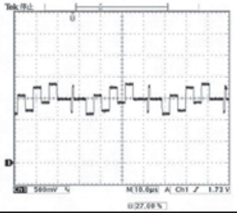
㉔ **IC4701 - pin 74**
V: 500 mV/div H: 10 µS/div



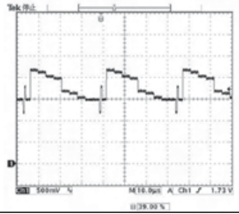
㉕ **IC4701 - pin 20**
V: 500 mV/div H: 10 µS/div



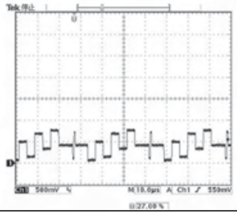
㉖ **IC4701 - pin 22**
V: 500 mV/div H: 10 µS/div



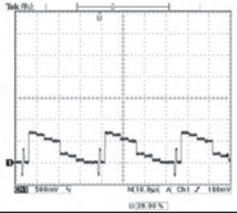
㉗ **IC4701 - pin 24**
V: 500 mV/div H: 10 µS/div



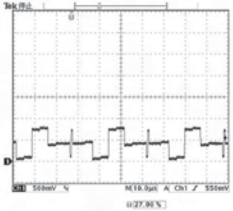
㉘ **IC5001 - pin 43**
V: 500 mV/div H: 10 µS/div



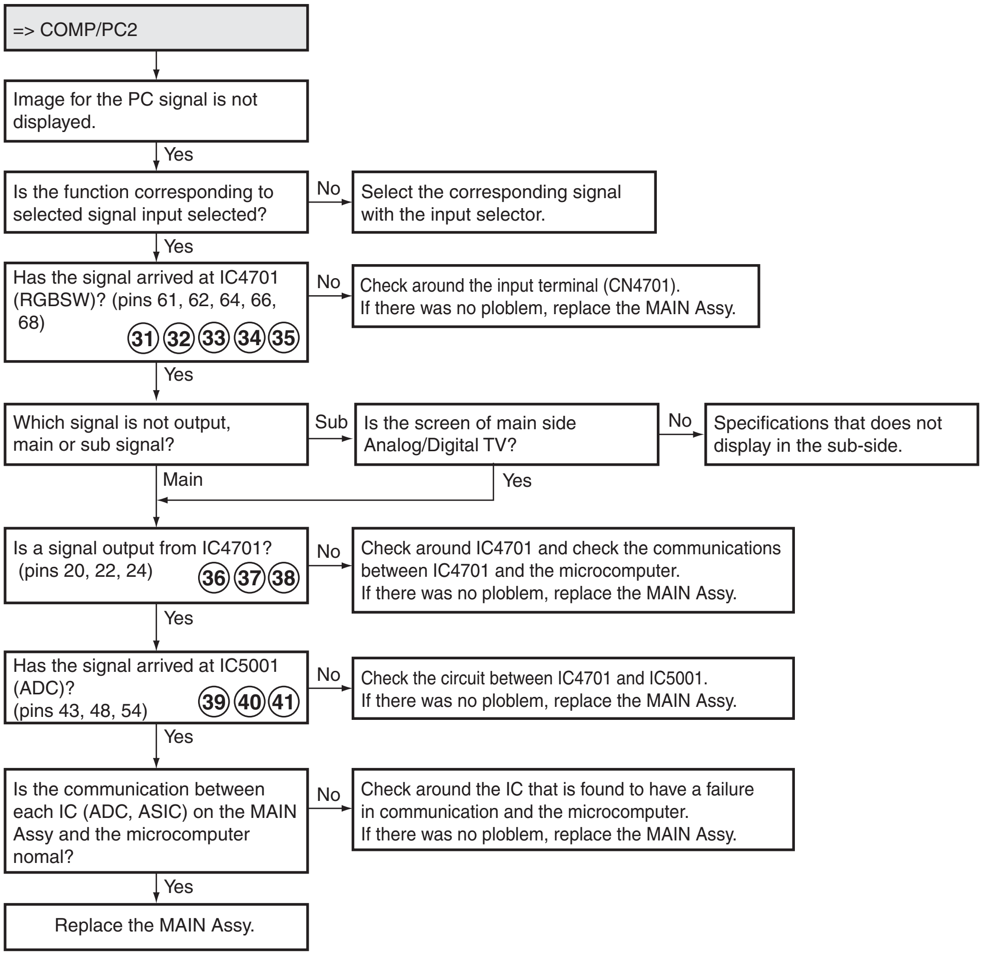
㉙ **IC5001 - pin 48**
V: 500 mV/div H: 10 µS/div



㉚ **IC5001 - pin 54**
V: 500 mV/div H: 10 µS/div



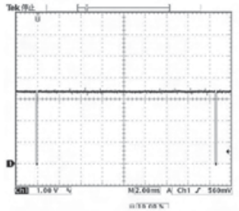
Flowchart of Failure Analysis for The Video System


=> COMP/PC2
Image for the PC signal is not displayed.
Yes
Is the function corresponding to selected signal input selected?
No
Select the corresponding signal with the input selector.
Yes
Has the signal arrived at IC4701 (RGBSW)? (pins 61, 62, 64, 66, 68) ㉛㉜㉝㉞㉟
No
Check around the input terminal (CN4701). If there was no ploblem, replace the MAIN Assy.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Yes
Main
Is a signal output from IC4701? (pins 20, 22, 24) ㊱㊲㊳
No
Check around IC4701 and check the communications between IC4701 and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Has the signal arrived at IC5001 (ADC)? (pins 43, 48, 54) ㊴㊵㊶
No
Check the circuit between IC4701 and IC5001. If there was no ploblem, replace the MAIN Assy.
Yes
Is the communication between each IC (ADC, ASIC) on the MAIN Assy and the microcomputer nomal?
No
Check around the IC that is found to have a failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

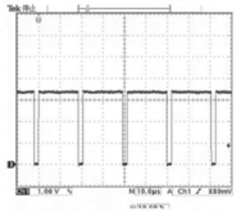
● Waveforms

Input signal: Color-bar (PC XGA/60 Hz)

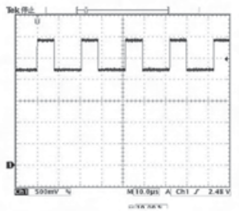
㉛ **IC4701 - pin 61**
V: 1 V/div H: 2 mS/div



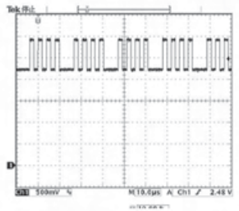
㉜ **IC4701 - pin 62**
V: 1 V/div H: 10 µS/div



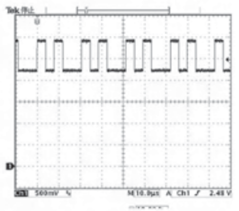
㉝ **IC4701 - pin 64**
V: 500 mV/div H: 10 µS/div



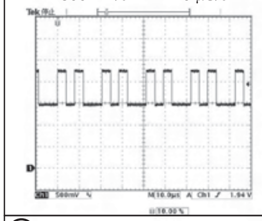
㉞ **IC4701 - pin 66**
V: 500 mV/div H: 10 µS/div



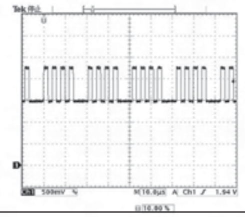
㉟ **IC4701 - pin 68**
V: 500 mV/div H: 10 µS/div



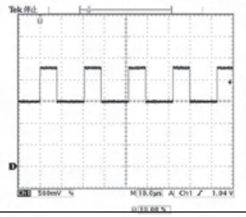
㊱ **IC4701 - pin 20**
V: 500 mV/div H: 10 µS/div



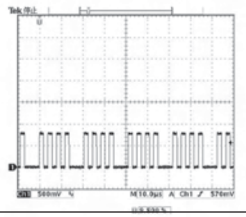
㊲ **IC4701 - pin 22**
V: 500 mV/div H: 10 µS/div



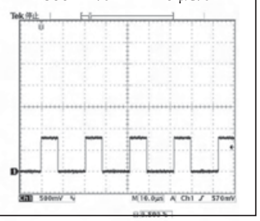
㊳ **IC4701 - pin 24**
V: 500 mV/div H: 10 µS/div



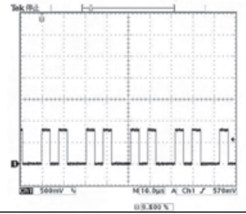
㊴ **IC5001 - pin 43**
V: 500 mV/div H: 10 µS/div



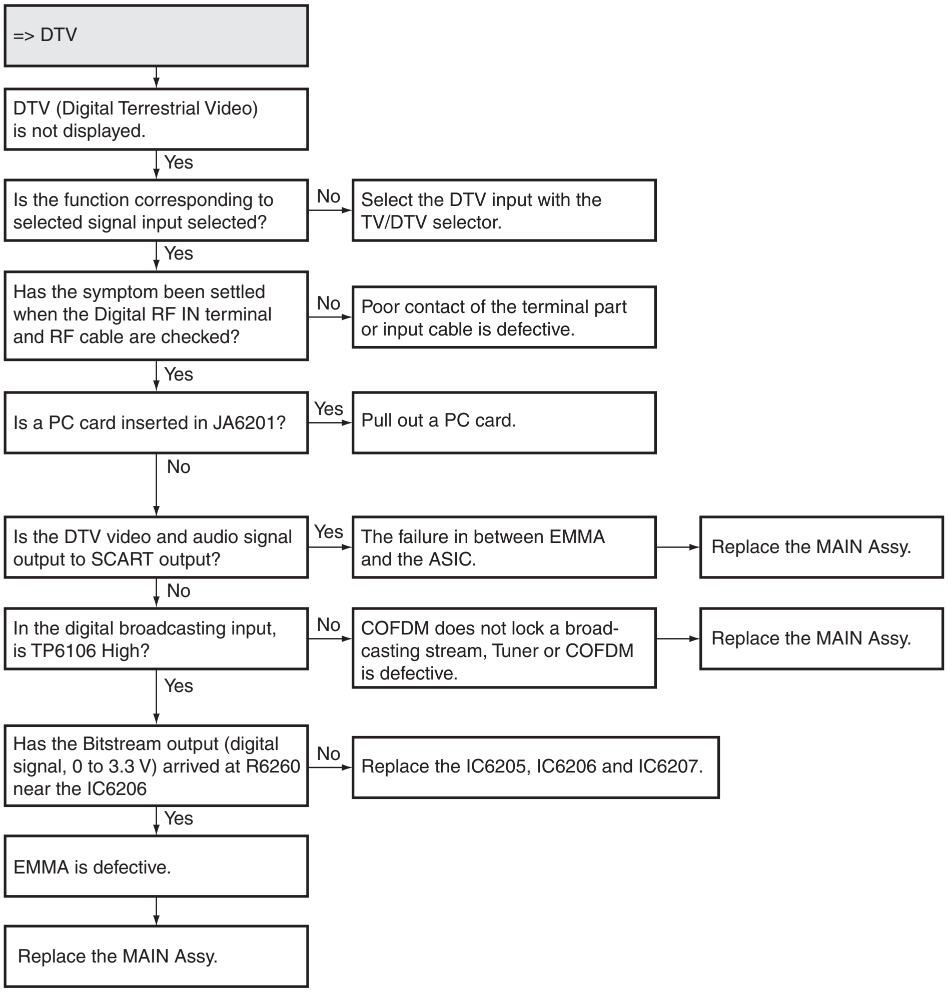
㊵ **IC5001 - pin 48**
V: 500 mV/div H: 10 µS/div



㊶ **IC5001 - pin 54**
V: 500 mV/div H: 10 µS/div

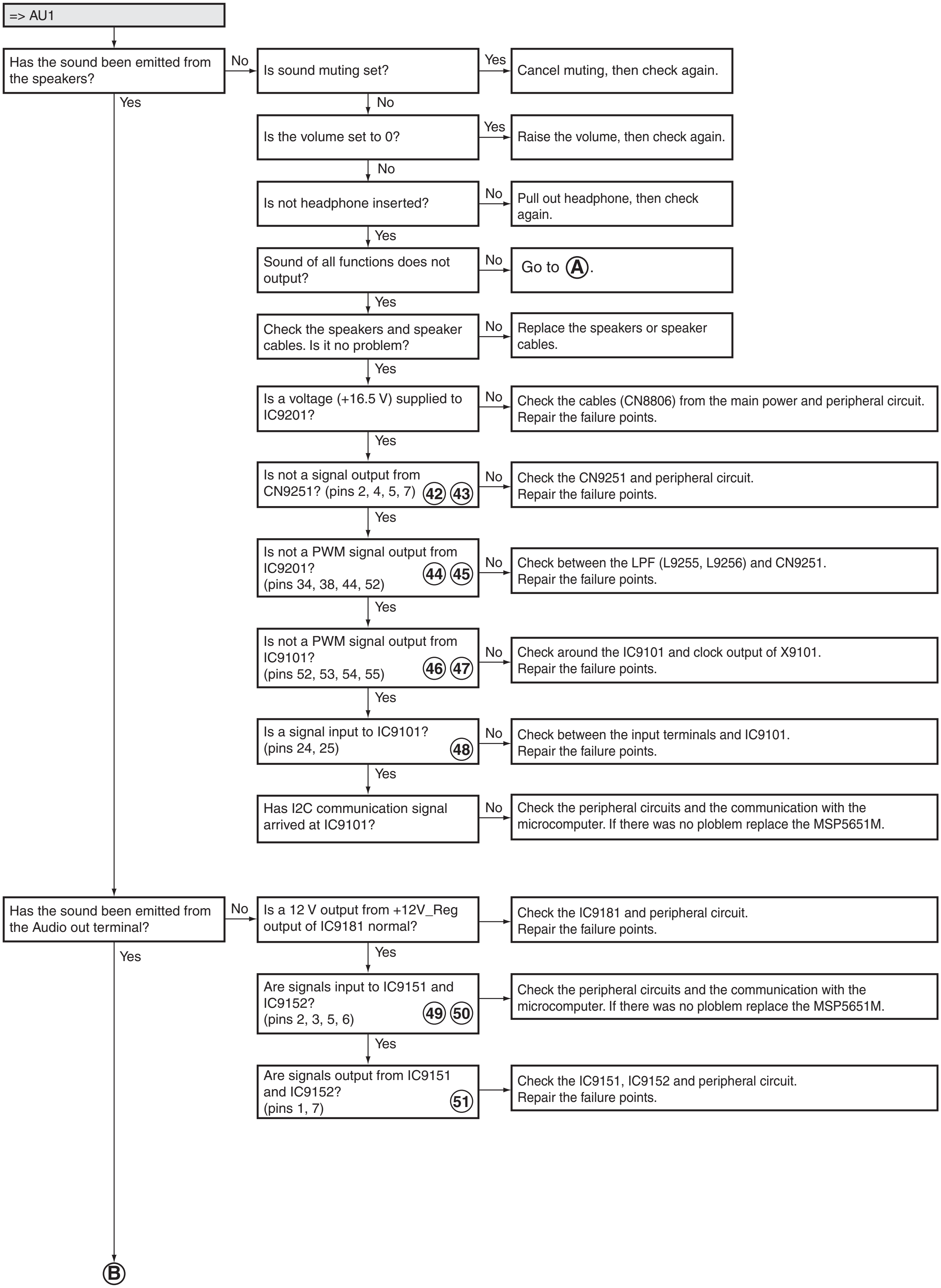


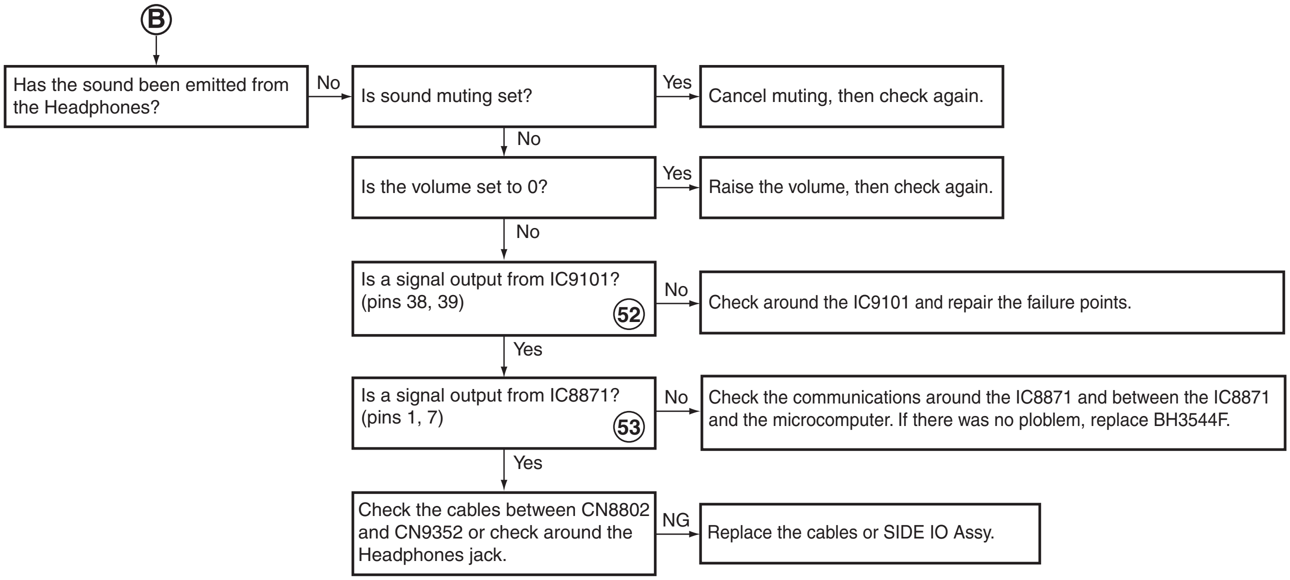
Flowchart of Failure Analysis for The Video System


=> DTV
DTV (Digital Terrestrial Video) is not displayed.
Yes
Is the function corresponding to selected signal input selected?
No
Select the DTV input with the TV/DTV selector.
Yes
Has the symptom been settled when the Digital RF IN terminal and RF cable are checked?
No
Poor contact of the terminal part or input cable is defective.
Yes
Is a PC card inserted in JA6201?
Yes
Pull out a PC card.
No
Is the DTV video and audio signal output to SCART output?
Yes
The failure in between EMMA and the ASIC.
Replace the MAIN Assy.
No
In the digital broadcasting input, is TP6106 High?
No
COFDM does not lock a broadcasting stream, Tuner or COFDM is defective.
Replace the MAIN Assy.
Yes
Has the Bitstream output (digital signal, 0 to 3.3 V) arrived at R6260 near the IC6206
No
Replace the IC6205, IC6206 and IC6207.
Yes
EMMA is defective.
Replace the MAIN Assy.

5.2.7 AUDIO SYSTEM

Flowchart of Failure Analysis for The Audio System

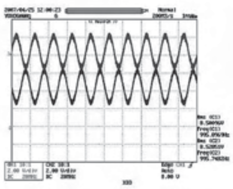

=> AU1
Has the sound been emitted from the speakers?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is not headphone inserted?
No
Pull out headphone, then check again.
Yes
Sound of all functions does not output?
No
Go to Ⓐ.
Yes
Check the speakers and speaker cables. Is it no problem?
No
Replace the speakers or speaker cables.
Yes
Is a voltage (+16.5 V) supplied to IC9201?
No
Check the cables (CN8806) from the main power and peripheral circuit. Repair the failure points.
Yes
Is not a signal output from CN9251? (pins 2, 4, 5, 7) (42) (43)
No
Check the CN9251 and peripheral circuit. Repair the failure points.
Yes
Is not a PWM signal output from IC9201? (pins 34, 38, 44, 52) (44) (45)
No
Check between the LPF (L9255, L9256) and CN9251. Repair the failure points.
Yes
Is not a PWM signal output from IC9101? (pins 52, 53, 54, 55) (46) (47)
No
Check around the IC9101 and clock output of X9101. Repair the failure points.
Yes
Is a signal input to IC9101? (pins 24, 25) (48)
No
Check between the input terminals and IC9101. Repair the failure points.
Yes
Has I2C communication signal arrived at IC9101?
No
Check the peripheral circuits and the communication with the microcomputer. If there was no ploblem replace the MSP5651M.
Yes
Has the sound been emitted from the Audio out terminal?
No
Is a 12 V output from +12V_Reg output of IC9181 normal?
Check the IC9181 and peripheral circuit. Repair the failure points.
Yes
Are signals input to IC9151 and IC9152? (pins 2, 3, 5, 6) (49) (50)
Check the peripheral circuits and the communication with the microcomputer. If there was no ploblem replace the MSP5651M.
Yes
Are signals output from IC9151 and IC9152? (pins 1, 7) (51)
Check the IC9151, IC9152 and peripheral circuit. Repair the failure points.
Yes
Ⓑ


B
Has the sound been emitted from the Headphones?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is a signal output from IC9101? (pins 38, 39)
52
No
Check around the IC9101 and repair the failure points.
Yes
Is a signal output from IC8871? (pins 1, 7)
53
No
Check the communications around the IC8871 and between the IC8871 and the microcomputer. If there was no ploblem, replace BH3544F.
Yes
Check the cables between CN8802 and CN9352 or check around the Headphones jack.
NG
Replace the cables or SIDE IO Assy.

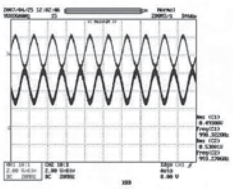
• Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

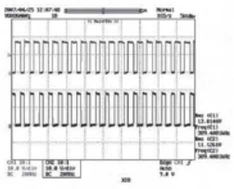
(42) **CN9251 - pins 2, 4**
V: 2 V/div H: 1 mS/div



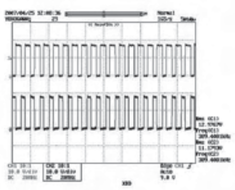
(43) **CN9251 - pins 5, 7**
V: 2 V/div H: 1 mS/div



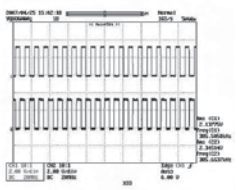
(44) **IC9201 - pins 34, 38**
V: 10 V/div H: 5 µS/div



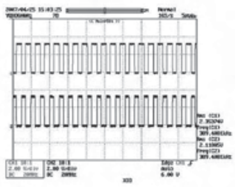
(45) **IC9201 - pins 44, 52**
V: 10 V/div H: 5 µS/div



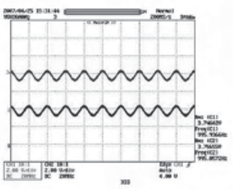
(46) **IC9101 - pins 52, 53**
V: 2 V/div H: 5 µS/div



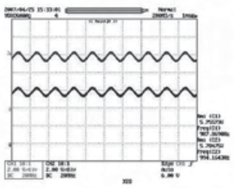
(47) **IC9101 - pins 54, 55**
V: 2 V/div H: 5 µS/div



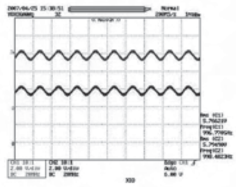
(48) **IC9101 - pins 24, 25**
V: 2 V/div H: 1 mS/div



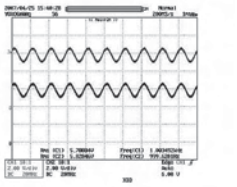
(49) **IC9151 - pins 2, 3**
V: 2 V/div H: 1 mS/div



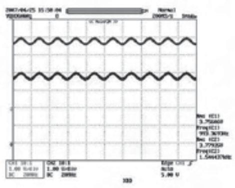
(50) **IC9151 - pins 5, 6**
V: 2 V/div H: 1 mS/div



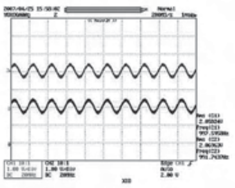
(51) **IC9151 - pin 1, etc.**
V: 2 V/div H: 1 mS/div

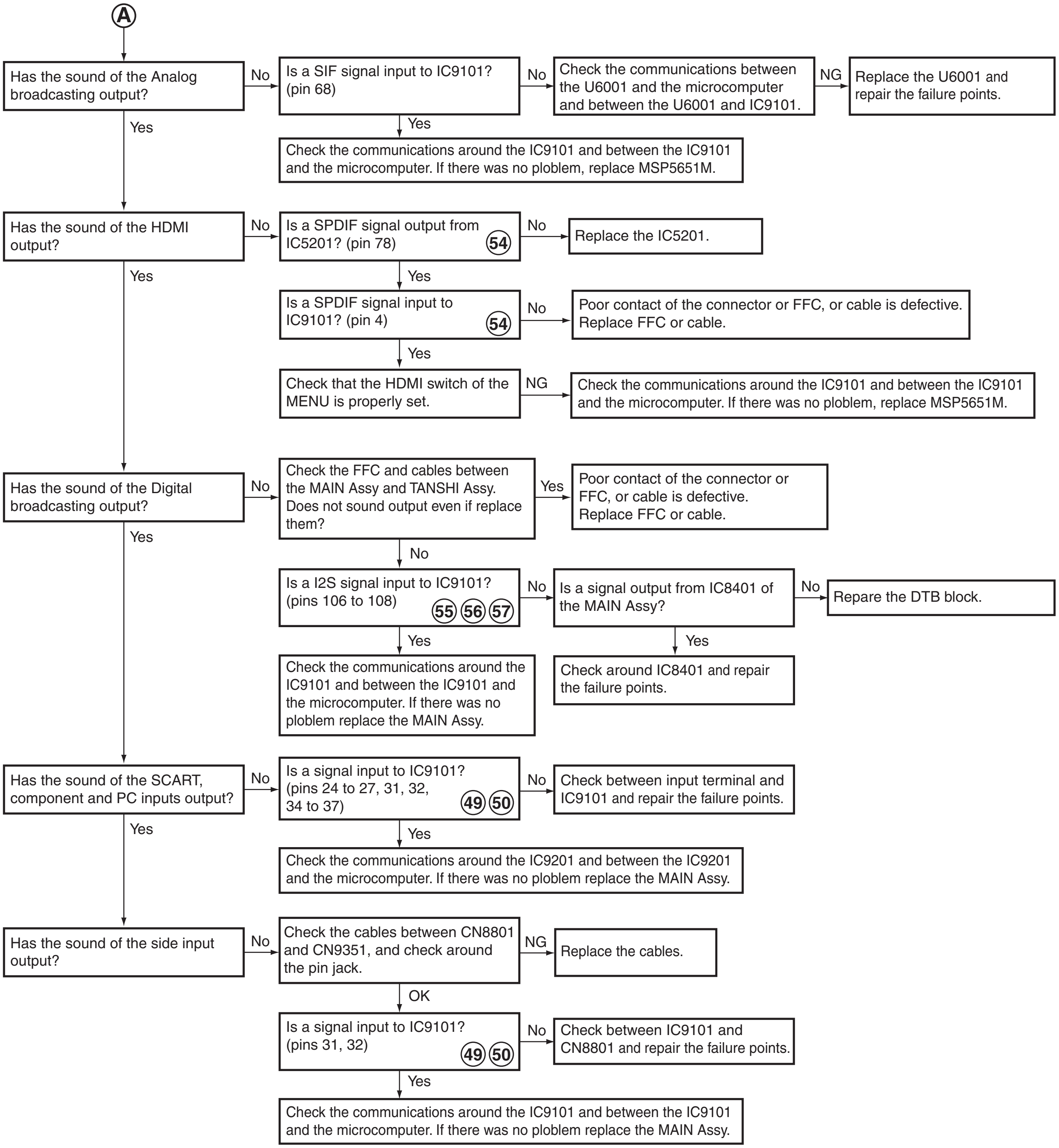


(52) **IC9101 - pins 38, 39**
V: 1 V/div H: 1 mS/div



(53) **IC8871 - pins 1, 7**
V: 1 V/div H: 1 mS/div





Ⓐ

Has the sound of the Analog broadcasting output?
No → Is a SIF signal input to IC9101? (pin 68)
No → Check the communications between the U6001 and the microcomputer and between the U6001 and IC9101.
NG → Replace the U6001 and repair the failure points.
Yes → Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem, replace MSP5651M.

Yes → Has the sound of the HDMI output?
No → Is a SPDIF signal output from IC5201? (pin 78) (54)
No → Replace the IC5201.
Yes → Is a SPDIF signal input to IC9101? (pin 4) (54)
No → Poor contact of the connector or FFC, or cable is defective. Replace FFC or cable.
Yes → Check that the HDMI switch of the MENU is properly set.
NG → Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem, replace MSP5651M.

Yes → Has the sound of the Digital broadcasting output?
No → Check the FFC and cables between the MAIN Assy and TANSHI Assy. Does not sound output even if replace them?
Yes → Poor contact of the connector or FFC, or cable is defective. Replace FFC or cable.
No → Is a I2S signal input to IC9101? (pins 106 to 108) (55) (56) (57)
No → Is a signal output from IC8401 of the MAIN Assy?
No → Repare the DTB block.
Yes → Check around IC8401 and repair the failure points.
Yes → Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.

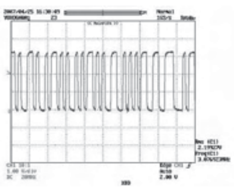
Yes → Has the sound of the SCART, component and PC inputs output?
No → Is a signal input to IC9101? (pins 24 to 27, 31, 32, 34 to 37) (49) (50)
No → Check between input terminal and IC9101 and repair the failure points.
Yes → Check the communications around the IC9201 and between the IC9201 and the microcomputer. If there was no ploblem replace the MAIN Assy.

Yes → Has the sound of the side input output?
No → Check the cables between CN8801 and CN9351, and check around the pin jack.
NG → Replace the cables.
OK → Is a signal input to IC9101? (pins 31, 32) (49) (50)
No → Check between IC9101 and CN8801 and repair the failure points.
Yes → Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.

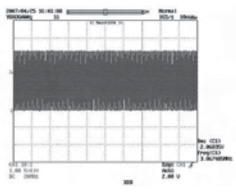
• Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

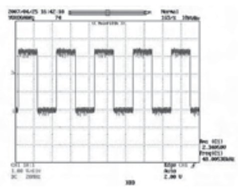
(54) **IC5201 - pin 78**
V: 1 V/div H: 1 µS/div



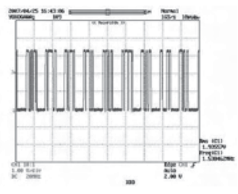
(55) **IC9101 - pin 106**
V: 1 V/div H: 10 µS/div



(56) **IC9101 - pin 107**
V: 1 V/div H: 10 µS/div



(57) **IC9101 - pin 108**
V: 1 V/div H: 10 µS/div

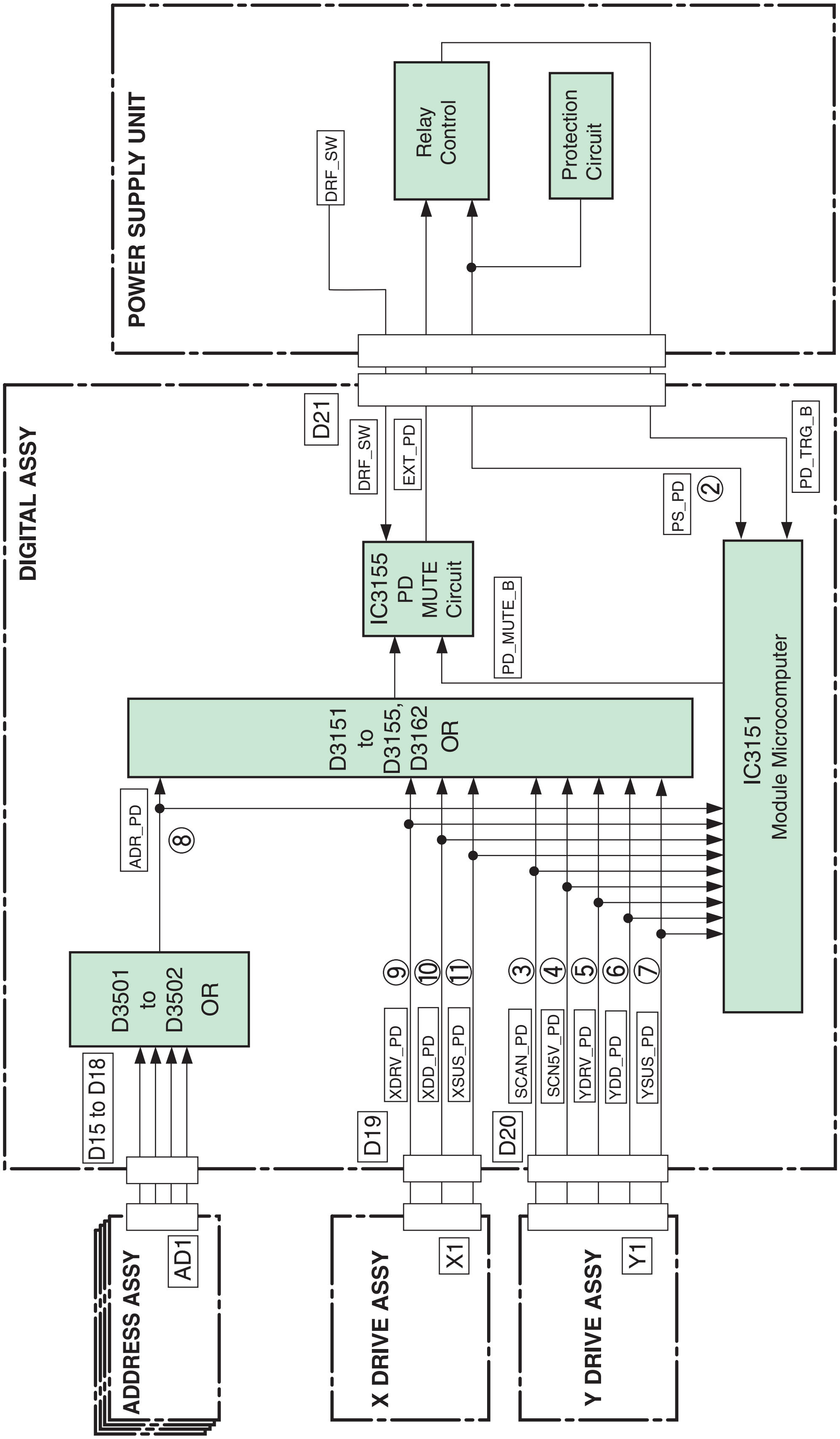


5.3 DIAGNOSIS OF PD (POWER-DOWN)

5.3.1 BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL

■ Block Diagram of the Power-Down Signal

Note:
The figures ② to ⑪ indicate the number of times the LED flashes when power-down occurs in the corresponding route.



POWER SUPPLY UNIT
Relay Control
Protection Circuit
DRF_SW
DIGITAL ASSY
D21
DRF_SW
EXT_PD
PS_PD
②
PD_TRG_B
IC3155 PD MUTE Circuit
PD_MUTE_B
IC3151 Module Microcomputer
D3151 to D3155, D3162 OR
ADR_PD
⑧
D3501 to D3502 OR
D15 to D18
⑨
⑩
⑪
XDRV_PD
XDD_PD
XSUS_PD
D19
③
④
⑤
⑥
⑦
SCAN_PD
SCN5V_PD
YDRV_PD
YDD_PD
YSUS_PD
D20
ADDRESS ASSY
AD1
X DRIVE ASSY
X1
Y DRIVE ASSY
Y1

5.3.2 PD (POWER-DOWN) DIAGNOSIS OF FAILURE ANALYSIS

■ Prediction of failure symptoms when a PD (power-down) is generated

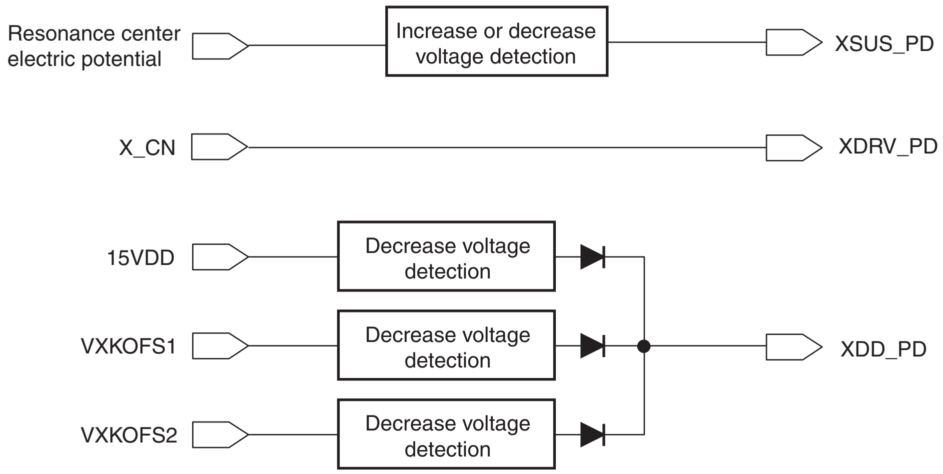
Red LED Flashing Count	Operating PD	Defective Assy	PD Outline	Checkpoint	Possible Defective Part	Remarks
2	POWER	POWER SUPPLY Unit	Failure in the POWER SUPPLY Unit			
		X DRIVE Assy	VSUS UVP	X SUS BLOCK	Q1219,Q1220,Q1221, Q1222,Q1223,Q1224,Q1201	VSUS-PSUS and SUSOUT-SUSGND are short-circuited.
		Y DRIVE Assy		Y SUS BLOCK	Q2217,Q2218,Q2219, Q2221,Q2222,Q2223	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
3	SCAN	SCAN Assy	VH UVP	SCAN IC	SCAN IC	
		X DRIVE Assy		X SUS BLOCK	Q1219,Q1220,Q1221, Q1222,Q1223,Q1224,Q1201	VSUS-PSUS and SUSOUT-SUSGND are short-circuited.
		Y DRIVE Assy		Y SUS BLOCK	Q2217,Q2218,Q2219, Q2221,Q2222,Q2223	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
				VH DC/DC converter	IC2601,D2604	
			Connectors disconnection detection	CN2001,CN2301		
		DIGITAL Assy		CN3506		
4	SCN-5V	SCAN Assy	IC5V UVP	SCAN IC		
		Y DRIVE Assy		IC5V DC/DC		
			Connectors disconnection detection	CN2501,CN2502	Q2554,D2558	
5	Y-DCDC	Y DRIVE Assy	Connectors disconnection detection	CN2001		
		DIGITAL Assy		CN3506		
6	Y-DCDC	Y DRIVE Assy	VNOFS UVP	Y MSK BLOCK	Q2320,Q2321,Q2322,Q2323, Q2324,Q2325,Q2330,Q2332, Q2334	LMSK is short-circuited.
				VNOFS DC/DC	D2606,Q2710,Q2711	
			Vprst UVP	YPRST Regulator	D2602,Q2604,R2610	
			15VDD UVP	15VDC/DC	Q2572	
			VKOFS1_2 UVP	Y MSK BLOCK	Q2320,Q2321,Q2322,Q2323, Q2324,Q2325,Q2330,Q2332, Q2334	LMSK is short-circuited.
				VKOFS1_2 Regulator	Q2705,Q2702	
			VKOFS3 UVP	Y MSK BLOCK	Q2320,Q2321,Q2322,Q2323, Q2324,Q2325,Q2330,Q2332, Q2334	LMSK is short-circuited.
				VKOFS3 Regulator	Q2706,Q2703	
			VKOFS4 UVP	Y MSK BLOCK	Q2320,Q2321,Q2322,Q2323, Q2324,Q2325,Q2330,Q2332, Q2334	LMSK is short-circuited.
				VKOFS4 Regulator	Q2707,Q2704	
7	Y-SUS	Y DRIVE Assy	Center electric potential detection PD	Y RESONANCE BLOCK	Q2106,Q2107,Q2108,Q2110,Q2112, D2104,D2105,D2108,D2109	
8	ADRS	ADDRESS Assy	Vadr LVP	ADDRESS RESONACE BLOCK	IC1551,IC1552,IC1553,IC1554	Vadr is short-circuited (TCP,etc.). Each TCP unit.
					Q1631,Q1641,Q1651,Q1661, (D1631,D1641,D1651,D1661,R1614, R1615,R1616,R1617)	Between ADR_B and Vadr is short-circuited. Each resonance block unit.
					C1611,(R1614,R1615,R1616,R1617, R1635,R1645,R1965,R1665,D1631, D1641,D1651,D1661,Q1610)	ADR_B capacitor is short-circuited.
			Connectors disconnection detection	CN1501,CN1502		
		DIGITAL Assy		CN3501 to CN3504		
		X DRIVE Assy		CN1202,CN1203		
		Y DRIVE Assy		CN2302,CN2303,CN2304		
9	XDRIVE	X DRIVE Assy	Connectors disconnection detection	CN1001		
		DIGITAL Assy		CN3505		
10	X-DCDC	X DRIVE Assy	Connectors disconnection detection	CN1201		
			15VDD UVP	X SUS BLOCK	L1201,R1217	
				15VDC/DC	Q1402	
			VXKOFS1 UVP	VXKOFS1 Regulator	Q1403,Q1404,IC1401	
				X OFFSET BLOCK	Q1301,Q1303	
			VXKOFS2 UVP	VXKOFS2 Regulator	Q1405,Q1406,IC1402	
				X OFFSET BLOCK	Q1302,Q1304	
11	X-SUS	X DRIVE Assy	Center electric potential detection PD	X RESONANCE BLOCK	Q1108,Q1109,Q1110,Q1112, D1106,D1107,D1110,D1111	

UVP: Under Voltage Protect , OVP: Over Voltage Protect

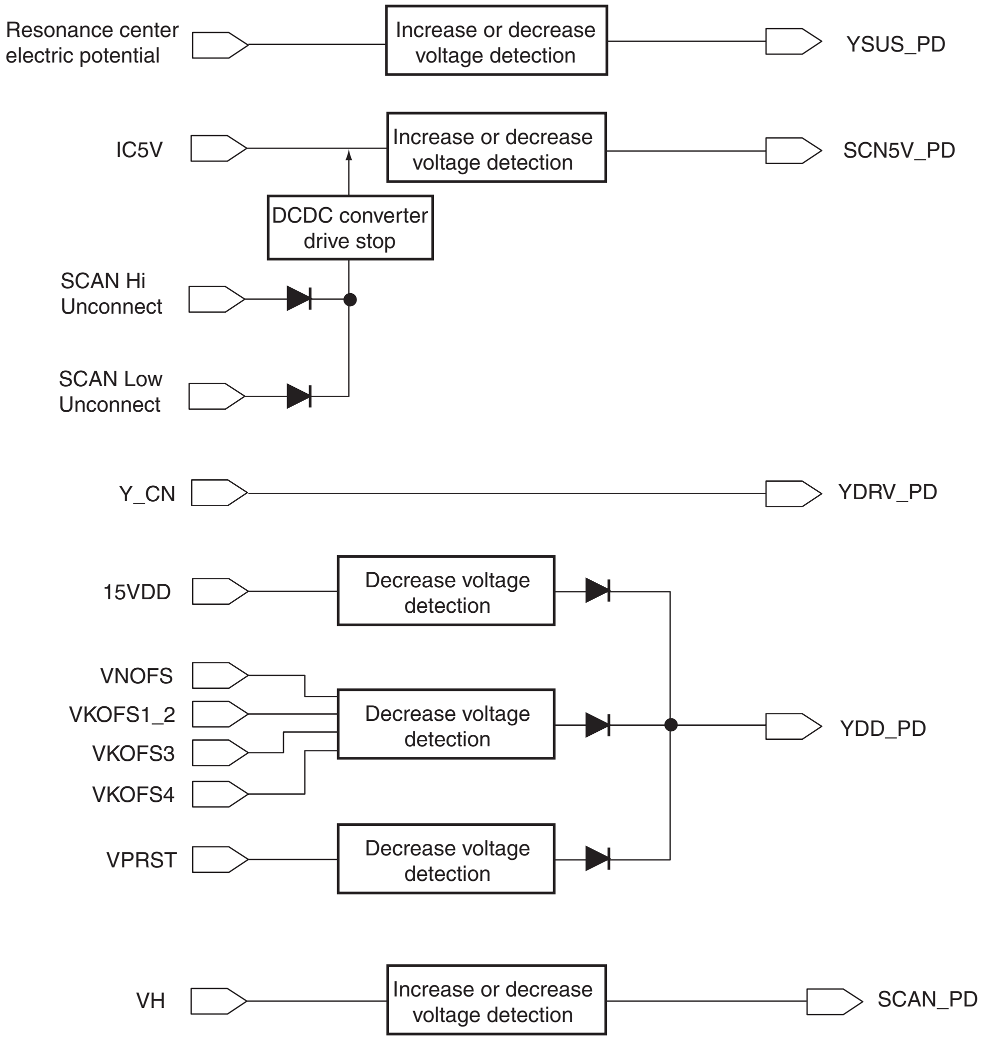
How to distinguish which connector is disconnected

Assy	Connector	To which Assy the Connector is Connected	LED Flashing Count	Screen Display
X DRIVE Assy	CN1001	DIGITAL Assy	5 (XDRIVE)	
	CN1201	POWER SUPPLY Unit (drive system power)	11 (X-SUS)	
	CN1202	POWER SUPPLY Unit (ADR system power)	8 (ADRS)	
	CN1203	ADDRESS Assy	8 (ADRS)	
Y DRIVE Assy	CN2001	DIGITAL Assy	3 (SCAN)	
	CN2301	POWER SUPPLY Unit (drive system power)	3 (SCAN)	
	CN2302	POWER SUPPLY Unit (ADR system power)	8 (ADR)	
	CN2303, CN2304	ADDRESS Assy	8 (ADR)	
	CN2501, CN2502	SCAN A, B Assy	4 (SCN-5V)	
SCAN A, B Assy	CN2801, CN2901	Y DRIVE Assy	4 (SCN-5V)	
ADDRESS Assy	CN1501	DIGITAL Assy	8 (ADRS)	
	CN1502	X DRIVE Assy, Y DRIVE Assy	8 (ADRS)	

X Drive PD system


Resonance center electric potential
Increase or decrease voltage detection
XSUS_PD
X_CN
XDRV_PD
15VDD
Decrease voltage detection
VXKOFS1
Decrease voltage detection
XDD_PD
VXKOFS2
Decrease voltage detection

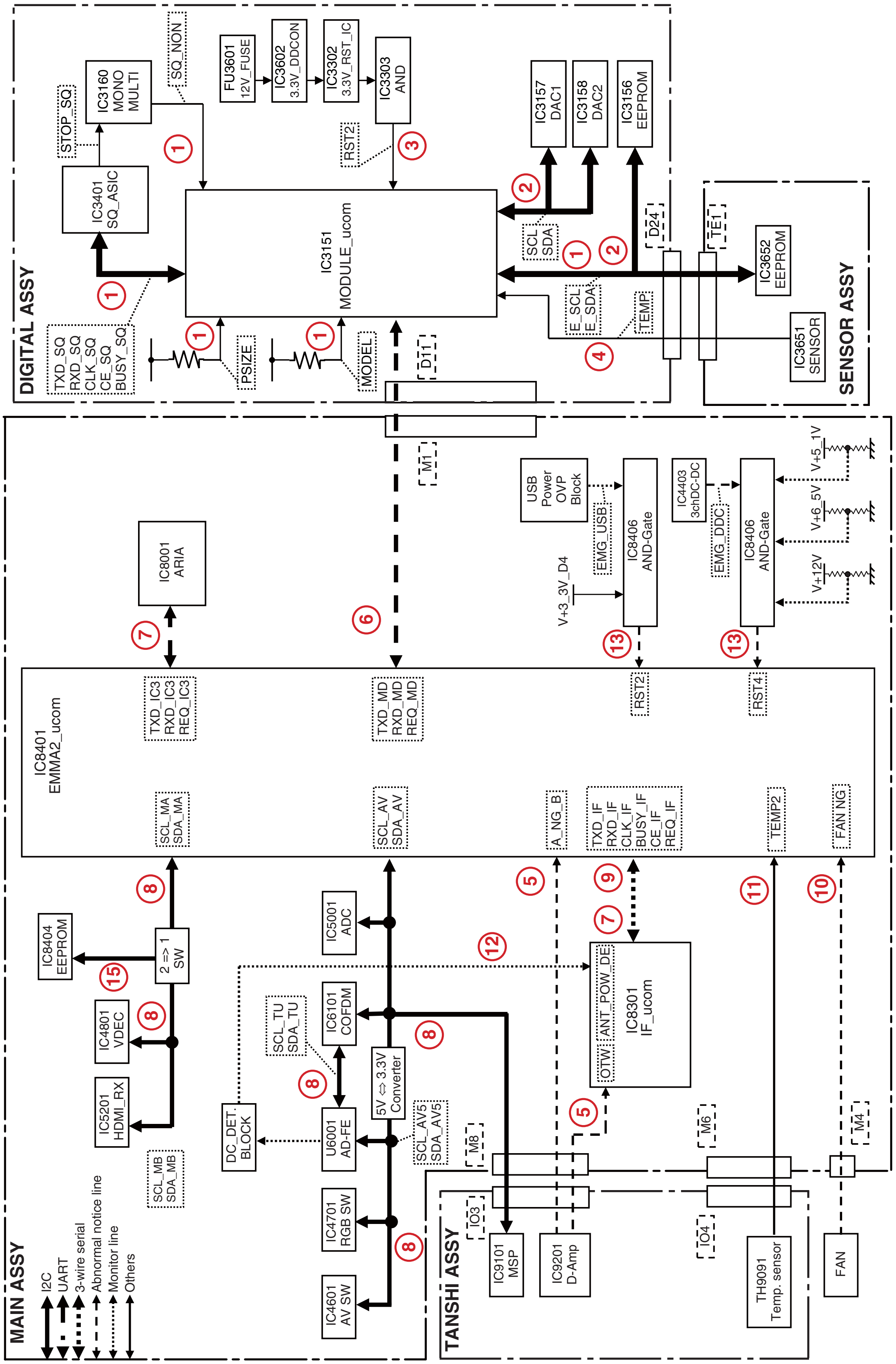
Y Drive PD system


Resonance center electric potential
Increase or decrease voltage detection
YSUS_PD
IC5V
Increase or decrease voltage detection
SCN5V_PD
DCDC converter drive stop
SCAN Hi Unconnect
SCAN Low Unconnect
Y_CN
YDRV_PD
15VDD
Decrease voltage detection
VNOFS
VKOFS1_2
VKOFS3
VKOFS4
Decrease voltage detection
YDD_PD
VPRST
Decrease voltage detection
VH
Increase or decrease voltage detection
SCAN_PD

5.4 DIAGNOSIS OF SD (SHUTDOWN)

5.4.1 BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL

■ Block Diagram of the Shutdown Signal


DIGITAL ASSY
IC3401 SQ_ASIC
IC3160 MONO MULTI
STOP_SQ
SQ_NON
FU3601 12V_FUSE
IC3602 3.3V_DDCON
IC3302 3.3V_RST_IC
IC3303 AND
RST2
IC3151 MODULE_ucom
IC3157 DAC1
IC3158 DAC2
IC3156 EEPROM
SCL SDA
E_SCL E_SDA
TEMP
D24
TE1
D11
PSIZE
MODEL
TXD_SQ RXD_SQ CLK_SQ CE_SQ BUSY_SQ
SENSOR ASSY
IC3652 EEPROM
IC3651 SENSOR
MAIN ASSY
M1
IC8001 ARIA
USB Power OVP Block
EMG_USB
IC8406 AND-Gate
V+3_3V_D4
IC4403 3chDC-DC
EMG_DDC
V+5_1V
V+6_5V
V+12V
IC8401 EMMA2_ucom
TXD_IC3 RXD_IC3 REQ_IC3
TXD_MD RXD_MD REQ_MD
RST2
RST4
SCL_MA SDA_MA
SCL_AV SDA_AV
A_NG_B
TXD_IF RXD_IF CLK_IF BUSY_IF CE_IF REQ_IF
TEMP2
FAN NG
IC8404 EEPROM
2 => 1 SW
IC4801 VDEC
IC5201 HDMI_RX
SCL_MB SDA_MB
IC5001 ADC
IC6101 COFDM
SCL_TU SDA_TU
5V <=> 3.3V Converter
DC_DET. BLOCK
U6001 AD-FE
SCL_AV5 SDA_AV5
IC4701 RGB SW
IC4601 AV SW
IC8301 IF_ucom
OTW
ANT_POW_DE
M8
M6
M4
IO3
IO4
TANSHI ASSY
IC9101 MSP
IC9201 D-Amp
TH9091 Temp. sensor
FAN
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑮
I2C
UART
3-wire serial
Abnormal notice line
Monitor line
Others

Note : The figures ① to ⑮ indicate the number of times the LED flashes when shut-down occurs in the corresponding route.

5.4.2 SD (SHUTDOWN) DIAGNOSIS

Frequency of LED Flashing	Major Type	Detailed Type	Log Indication in Factory Mode		Checkpoint	Possible Defective Part	Remarks
			MAIN	SUB			
Blue 1	Abnormality in the Sequence LSI	Communication error	SQ-LSI	RTRY	CLK_SQ/TXD_SQ, etc.	IC3401, IC3151	SQ_IC communication not established. IC3401 may not have properly started up.
		Drive stop		SQNO	Check if the video sync signal is input to IC3401.	CN3001, IC3001,IC3401	A shutdown occurs if IC3401 has not properly started up (a communication failure between IC3401 and IC3306 [FLASH]).
		Busy		BUSY	BUSY_SQ	IC3401, IC3151	If BUSY_SQ remains high, a shutdown is generated.
		Incoherent version (hardware, software)		VER-HS	Check the model number of the DIGITAL Assy and the destination of SEQ-PROS.	IC3306, IC3151	The written SEQ-PROG is incoherent with data on the DIGITAL Assy.
		Incoherent version (memory, software)		VER-MS	Check the model number of the DIGITAL Assy and the destination of SEQ-PROS.	IC3306, IC3151	A shutdown occurs if the SEQ-PROG that has been stored in backup memory does not coincide with the actual SEQ-PROG.
Blue 2	Failure in IIC communication with the module microcomputer	DIGITAL Assy EEPROM	MD-IIC	EEPROM	IIC communication line of IC3156	IC3156, IC3151	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
		SENSOR Assy EEPROM		BACKUP	IIC communication line of IC3652	IC3652, IC3151	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
		DAC1		DAC1	IIC communication line of IC3157	IC3157, IC3151	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
		DAC2		DAC2	IIC communication line of IC3158	IC3158, IC3151	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
Blue 3	Abnormality in RST2 power decrease	–	RST2	–	Is the output voltage of the DC-DC converter low?	IC3602(BD9302FP)	If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds.
					The 12 V power is not output.	POWER SUPPLY Unit,FU3601	Check if V + 12 V is started. Also check if the FU3601 on the DIGITAL Assy has been melted.
Blue 4	Abnormality in panel temperature	–	TMP-NG	TMP-H	High temperature abnormality in the panel temperature sensor	SENSOR Assy (IC3651)	If TEMP1 that is read by the module microcomputer is 75°C or higher, a shutdown will be generated.
				TMP-L	Low temperature abnormality in the panel temperature sensor	SENSOR Assy (IC3651)	A shutdown occurs if the reading of TEMP1 detected by the module microcomputer is –20°C or less. Also check the connection with the SENSOR Assy.
Blue 5	Short-circuiting of the speakers / D-AMP temperature abnormality	–	AUDIO	–	Speaker terminals	CN9251	Check if any speaker cable is in contact with the chassis.
					AUDIO_AMP	IC9201, IC9101	Check if the AMP output is short-circuited.
					Periphery of the cable between IO3 and M8, and IO6 and P5	CN8803,CN4001,CN8806,P5	Check if cables are firmly connected.
Blue 6	Failure in communication with the module microcomputer	–	MODULE	–	Communication line between MAIN and MOD	IC3151, IC8401	Check the communication lines (TXD_MOD/RXD_MOD/REQ_MOD).
					Periphery of the cable between D11 and M1	CN3001, CN4101	Check if cables are firmly connected.
Blue 7	Failure in main microcomputer 3-wire serial communication	IF microcomputer	MA-3L	IF	Communication line between IF and MAIN	IC8301, IC8401	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
		MULTI processor		MULTI	Communication line between MULTI and MAIN	IC8001, IC8401	Check the communication lines (TXD_IC3/RXD_IC3).
Blue 8	Failure in IIC communication with the main microcomputer	Tuner 1	MA-IIC	FE1	IIC communication line between Tuner and MAIN	U6001,IC8401,IC6101	Check the communication lines (SCL_TU/SDA_TU or SCL_AV5/SDA_AV5).
		MSP/MAP		MSPMAP	IIC communication line between MSP/MAP and MAIN	IC9101, IC8401	Check the communication lines (SCL_AV/SDA_AV).
		AV switch		AV-SW	IIC communication line between AV-SW and MAIN	IC4601, IC8401	Check the communication lines (SCL_AV5/SDA_AV5).
		RGB switch		RGB-SW	IIC communication line between RGB-SW and MAIN	IC4701, IC8401	Check the communication lines (SCL_AV5/SDA_AV5).
		VDEC		VDEC	IIC communication line between M-VDEC and MAIN	IC4801, IC8401	Check the communication lines (SCL_MB/SDA_MB).
		VDEC SDRAM		SDRAM	IIC communication line between VDEC and SDRAM	IC4801, IC4802	Check the communication lines (SDRAM). Defective SDRAM
		AD/PLL		ADC	IIC communication line between ADC and MAIN	IC5001, IC8401	Check the communication lines (SCL_AV/SDA_AV).
		HDMI		HDMI	IIC communication line between HDMI_RX and MAIN	IC5201, IC8401	Check the communication lines (SCL_MB/SDA_MB).
		COFDEM		DEMOD	IIC communication line between COFDM and MAIN	IC6101, IC8401	Check the communication lines (SCL_AV/SDA_AV).
Blue 9	Failure in communication with the main microcomputer	–	MAIN	–	Communication line between IF and MAIN	IC8301, IC8401	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Blue 10	FAN NG	FAN1	FAN	FAN1	Dirt attached to the fan motor	–	Check the fan(AXM1057).
					Periphery of the FAN CONNECT	AWW1290, AWW1329	FAN NG
					Periphery of the cable between FA1 and M5, FAN and M4, and FA2 and FA5	CN9551 to CN9555,CN4103,CN4108	Check if cables are firmly connected.
					Periphery of the fan control regulator	IC4310, IC4303	–
Blue 11	High temperature of the unit	–	TEMP2	–	Temperature sensor or its periphery	–	TEMP2 A shutdown occurs because of high temperature.
					Periphery of the temperature sensor	TH9091	TEMP2
					Periphery of the cable between IO4 and M6	CN8804, CN4004	Check if cables are firmly connected.
Blue 12	Digital Tuner	DTV startup error	DTUNER	PS/RST	–	IC8401	Check if DTV antenna is short-circuited.
		DTV ANTENNA		D-ANT	–	–	–
Blue 13	Failure in the power supply	DC-DC Converter power decrease	RST-MA	M-DCDC	DC-DC converter or its periphery, RST2	IC4403, Q4404	Check if V + 3.3 V_D4 is started.
					EMG_USB	IC4309	Check if the voltage at a waveform check point is 5 V.
		POWER SUPPLY		RELAY	The 12 V power is not output, RST4	POWER SUPPLY Unit	Check if V + 12 V is started.
					The 6.5 V power is not output	POWER SUPPLY Unit	Check if V + 6.5 V is started.
					The 5.1 V power is not output	POWER SUPPLY Unit	Check if V + 5.1 V is started.
					EMG_DDC	DCDC converter	Check if the DCDC converter is overloaded.
					Periphery of the cable between P8 and M3	CN4105	Check if cables are firmly connected.
Blue 15	Main EEPROM	Main EEPROM communication error	MA-EEP	–	IIC communication line between EEPROM and MAIN	IC8404, IC8401	Check the communication lines (SCL_EP/SDA_EP).

5.5 NON-FAILURE INFORMATION

5.5.1 INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE

■ Information on symptoms that do not constitute failure

Symptom	Cause, item to check, information
HDMI: Symptoms concerning the input format and settings	
The picture color for an INPUT 1 or 3 or 4 signal is not correct.	The color setting for INPUT 1 or 3 or 4 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB.
The video signal to INPUT 1 or 3 or 4 is not displayed, and a message is displayed.	A unsupported video signal is input.
The audio signal input to the INPUT 1 or 3 is not output. No HDMI signal is input.	The audio setting for INPUT 1 or 3 is "AUTO," and a video signal is not input. If the audio setting is "AUTO," to output an analog audio signal, the HDMI signal must be input. (If a DVI device is to be connected, use a DVI-HDMI conversion cable.) If the HDMI video signal is not input, the analog audio signal is not output. When the DVI equipment is connected, the analog signals are selected with the setting "AUTO."
No sound of signals to INPUT 1 or 3 or 4 is output.	The setting on the side of the HDMI output equipment is wrong. Example: Dolby Digital
The 1080p input signal is not displayed properly or at all, although the 1080i input signal is displayed properly.	Check that the connected cable supports HDMI Category 2. (As the clock frequency for the 1080p signal is triple that for the 1080i signal, signal degradation caused by a cable must not be neglected. A cable supporting HDMI Category 2 can be used for the 1080p signal. Although some conventional cables can support the 1080p signal, some others cannot.)
SCART video output	
The video output signal from the SCART connector is deteriorated. Or when the video output signal from the SCART connector is recorded, its playback picture is deteriorated.	The video signal output from the SCART connector is Macrovision protected.
The video signal is not output when the component signal is input to INPUT 2.	The video signal is not output from the SCART connector when the component signal is selected.
The video signal is not output when the video signal is input to INPUT 1 or 3 or 4.	The video signal is not output from the SCART connector when the HDMI signal is selected.
AUDIO OUT and SCART	
The image displayed on the PDP is not synchronized with the sound from the SCART.	The audio signal from the SCART connector is synchronized with the video output signal from the SCART connector. And the audio signal from the AUDIO OUT is synchronized with the video signal that is currently displayed.
DIGITAL OUT	
Playback of the signal from the DIGITAL audio output connector is possible, but recording is not possible.	The video signal output from the DIGITAL connector is copy-protected.
The digital audio output signal from the DIGITAL connector is not synchronized with that from the SCART video output.	The digital audio output signal from the DIGITAL connector is synchronized with the video signal that is currently displayed, and not with the SCART video output.
Miscellaneous	
The no-signal off function is not activated.	The no-signal off and no-operation off functions are effective only if video (composite, S video, component, HDMI [excluding PC]) input or TV input is selected.
The no-operation off function is not activated.	
Power management does not function.	Power Management is effective only while an analog PC signal is being input. It is not effective with HDMI-PC signal input.
The AUTO SETUP function is not activated.	The Auto Setup function is effective only while an analog PC signal is being input. This function does not work if an analog PC signal is not input, even if the INPUT PC is selected.
The audio signal from the PC is not output.	Wrong connection of the cable to the SR connector is suspected.
Control via the SR connector is not possible.	Wrong connection of the cable to the PC INPUT (AUDIO) connector is suspected.
The picture-quality setting (AV Selection) is not stored.	The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored.
The picture size changes arbitrary.	The Auto Size setting is set to ON.
The display position of the screen changes slightly while the screen is on.	The orbiter function for minimizing the effects of phosphor burn is activated. Although the setting for this function can be changed on the Home menu, retaining the factory setting is strongly recommended.
The video signal to the S video connector is not displayed.	As the signal input to the connector that has been selected on the INPUT SELECT submenu of the Home menu is selected (this does not apply to the connectors located on the side of the unit), check the menu setting. If the output signal is not available even if the input signal is properly selected, input a signal to other input functions, check the connecting cables, or check the settings for the connected equipment.
The video signal to the composite video connector is not displayed.	

SUPPLEMENT: On the video setting for HDMI

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.
(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)

It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.
In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVi, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

5.5.1.1 CONFIRMATION ON THE HDMI CONTROL FUNCTION

When you use the HDMI Control (HDMI-CEC) function, if the unit does not function properly, such as not being able to control or recognize connected equipment, check the following:

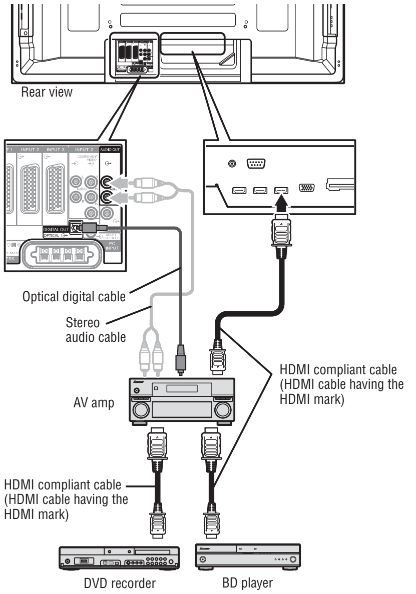
• Confirmation of the manufacturer of the connected equipment

Check if the connected equipment was manufactured by Pioneer and if it supports the HDMI Control function.
If its manufacturer is not Pioneer, proper operations are not guaranteed.

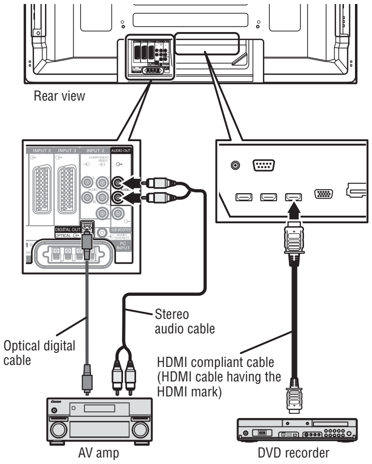
• Confirmation of connections

Check if the unit is connected properly, as shown in the figures below:
(For details, refer to "Making the HDMI Control connections" in the Operating instructions.)

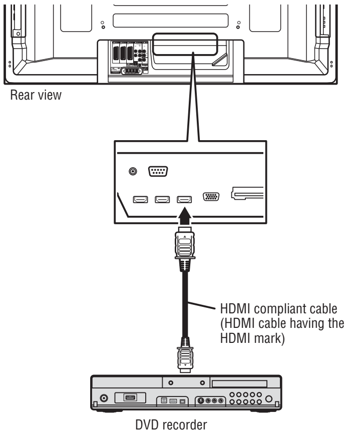
• PDP-4280XD and PDP-428XD


Rear view
Optical digital cable
Stereo audio cable
AV amp
HDMI compliant cable (HDMI cable having the HDMI mark)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Example 1: When an AV amplifier that supports HDMI Control is connected

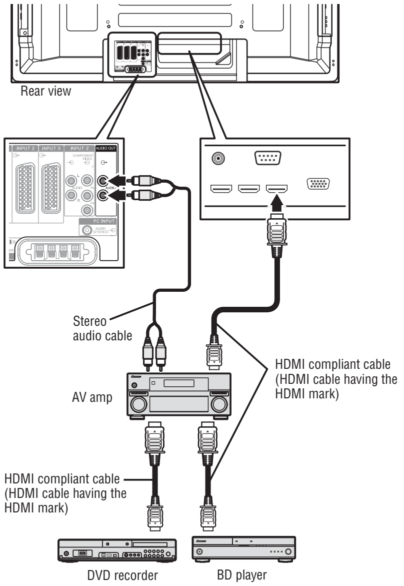

Rear view
Optical digital cable
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
DVD recorder

Example 2: When an AV amplifier that does not support HDMI Control is connected

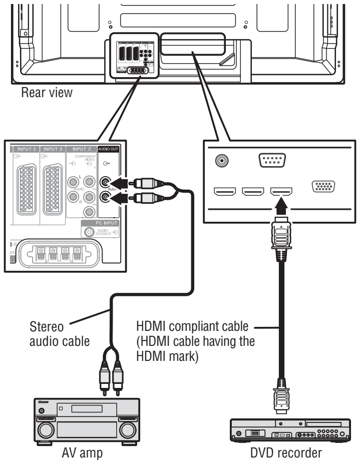

Rear view
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder

Example 3: When an AV amplifier is not connected

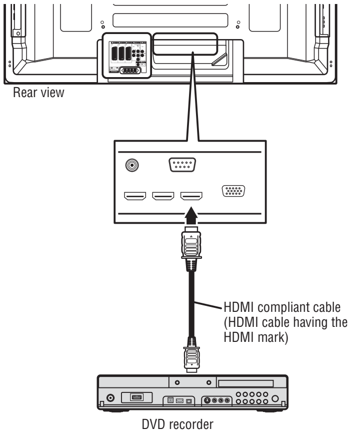
• PDP-4280XA


Rear view
Stereo audio cable
AV amp
HDMI compliant cable (HDMI cable having the HDMI mark)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Example 1: When an AV amplifier that supports HDMI Control is connected


Rear view
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
DVD recorder

Example 2: When an AV amplifier that does not support HDMI Control is connected

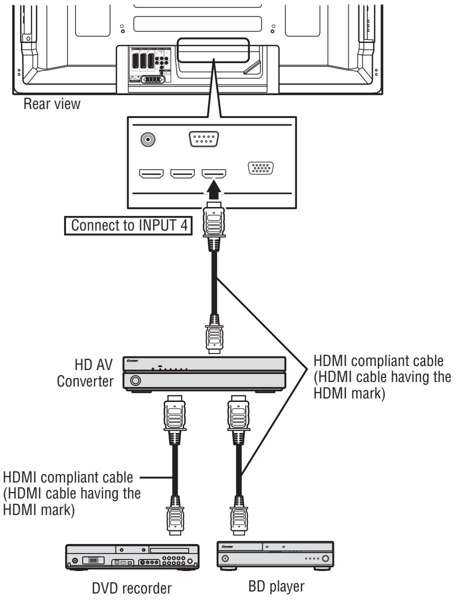

Rear view
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder

Example 3: When an AV amplifier is not connected

Check that the following conditions are met:

- The connected equipment must support the HDMI Control function.
- The equipment must be connected to the INPUT connector that has been selected in "Input Setting" on the HDMI Control Setting menu.
- The connections must be made properly, as shown in the above figures (in a case where an AV device, such as an AV amplifier, and a DVD recorder/BD player are connected, in a case where only a DVD recorder/BD player is connected, and in a case where an AV device, such as an AV amplifier, which does not support HDMI-CEC, is connected).
- When an AV device that supports the HDMI Control function is connected, it must be connected between the PDP and a DVD recorder/BD player.
- An AV device, such as an AV amplifier, and the HD AV Converter must not be connected simultaneously.
- The HDMI Control function must be activated on the connected equipment (DVD recorder, BD player, AV device [AV amplifier, etc.], or the HD AV Converter). (Refer to the instruction manual of the connected equipment.)

If the HD AV Converter is connected, check if it is connected properly, as shown in the figure below.
(For details, refer to "Selecting the HD AV Converter" and "HD AV Converter mode" in the Operating instructions.)


Rear view
Connect to INPUT 4
HD AV Converter
HDMI compliant cable (HDMI cable having the HDMI mark)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Check that the following conditions are met:

- The HD AV Converter must be connected to the INPUT 4 connector of the PDP.
- The HD AV Converter must be connected between the PDP and a DVD recorder/BD player, as shown in the figure above.
- The AV device, such as an AV amplifier, and the HD AV Converter are not connected simultaneously.
- The HDMI Control function must be activated on the HD AV Converter. (For details, refer to the instruction manual of the HD AV Converter.)

• Confirmation of the number of connected devices

Check that the number of connected devices does not exceed the maximum number for guaranteed operations.

Equipment	Maximum Number
DVD recorder	2
BD player	2
AV System	1 (∗1)
HD AV Converter	1 (∗1)

(∗1) Operation with either an AV device (AV amplifier, etc.) or the HD AV Converter is guaranteed. If both are connected, their operations are not guaranteed.

• Confirmation of settings

Check that the settings for the HDMI Control function are properly made. (For details, refer to "Setting the HDMI Control" in the Operating instructions.)

Check that the following conditions are met:

- "Input Setting" on the HDMI Control Setting menu must be set to the same input as that to which the equipment that supports the HDMI Control function is connected.
- When the HD AV Converter is connected, "HD AV Converter" on the HDMI Control Setting menu must be set to Enable.
- When Power Off Control, Power-On Ready, or Hold Sound Status are to be used, their settings must be On.
- When the HD AV Converter is connected, the HDMI Control switch on the rear panel of the HD AV Converter must be set to ON. The HDMI Control indicator on the front panel of the HD AV Converter will light in green when HDMI Control is enabled. (The HDMI Control indicator's lighting in green means HDMI Control is possible.)

- **Confirmation of operations**

Check that the HDMI Control function works properly.

(1) Connect a device that supports the HDMI Control function.

(2) Perform the procedures that are required after changing connections, which are described in "Making the HDMI Control connections" in the Operating instructions.

  1 Turn on the plasma television and all the connected devices.

  2 Confirm that the setting in “Input Setting” for “HDMI Control Setting” is properly entered according to the connected devices. Also confirm the HDMI Control related settings in the connected devices.

  3 Switch to the HDMI input terminals to which the devices are connected to check if audio and video images are properly output and displayed.

  4 Try turning off the plasma television, then turn the power back on to the plasma television.

(3) Perform "Power On Test" or "Power Off Test" on the HDMI Control Setting menu. (For details, refer to "Power On/Off Test" in the Operating instructions.)

If the following occurs even if the operation check is performed properly, a failure, such as breakage of the HDMI cable, problems on the side of the connected device, and problems with the MAIN Assy, may be suspected:

- "Power On Test" or "Power Off Test" cannot be selected (the items are grayed)
- The connected device cannot be turned on/off.

In some cases, an operation check using another HDMI input connector may be required in order to narrow down the cause.

As for the HD AV Converter, because "Power On Test" / "Power Off Test" is not available, follow the procedures below:

(1) Connect the HD AV Converter to the INPUT 4 connector. Set "HD AV Converter" on the HDMI Control Setting menu to Enable. The HD AV Converter can support HDMI Control only when it is connected to the INPUT 4 connector of the PDP.

(2) Perform the procedures that are required after changing connections, which are described in "Making the HDMI Control connections" in the Operating instructions.

(3) Turn the PDP off. If the PDP turns off properly, turn the HD AV Converter off.

If the following occurs even if the operation check is performed properly, a failure, such as breakage of the HDMI cable, problems on the side of the HD AV Converter, and problems with the MAIN Assy, may be suspected:

- The HD AV Converter cannot be turned off.

5.5.2 FUNCTION OF DECREASING THE BRIGHTNESS LEVEL

■High-temperature protection function 1

If the panel temperature (TEMP1) reaches 70 °C, the limit for the maximum count of plasma discharge will be gradually decreased to lower the temperature of the panel.

- This function is activated based on the TEMP1 temperature.
- The limit for the maximum count of plasma discharge will be decreased 8 per 5 seconds.
- The lowest limit for the maximum count of plasma discharge is about 700.
- The maximum count of plasma discharge will begin to increase gradually if the panel temperature falls to the specified temperature.

■High-temperature protection function 2

If the panel temperature (TEMP1) reaches 65 °C, the plasma-discharge count that is determined based on the input APL will be decreased. In actual operation, the ABL adjustment value will be offset.

- This function is activated based on the TEMP1 temperature.
- The ABL adjustment value will be decreased by one step per 30 seconds.
- The ABL adjustment value will begin to increase gradually if the panel temperature falls to the specified temperature.

■Panel protection function 1 (protection against still picture)

If a still picture is displayed for 3 minutes or more, the limit for the maximum count of plasma discharge will be gradually decreased to minimize the effects of phosphor burn.

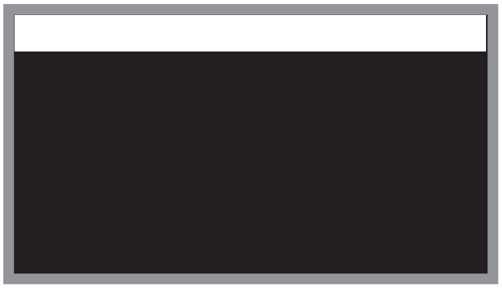
- This function is activated after detection if the displayed picture is still (the picture will be considered to be still if only the mouse cursor is moved).
- The limit for the maximum count of plasma discharge will be decreased 8 per 5 seconds.
- The lowest limit for the maximum count of plasma discharge is about 700 (it takes about 15 minutes to reach the lowest limit, although the required time varies depending on the displayed picture).
- The maximum count of plasma discharge will begin to increase gradually if the displayed picture is changed to animated picture.

Note: How to decrease the brightness level in this function is the same as in high-temperature protection function 1.

■Panel protection function 2 (SCAN IC protection)

If a particular load is applied to the SCAN IC, the limit for the maximum count of plasma discharge will be gradually decreased.

Note: How to decrease the brightness level in this function is the same as in high-temperature protection function 1.

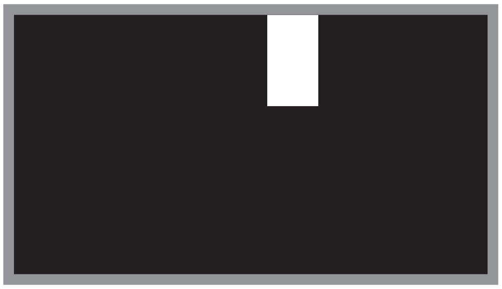


Detection example: SCAN IC protection

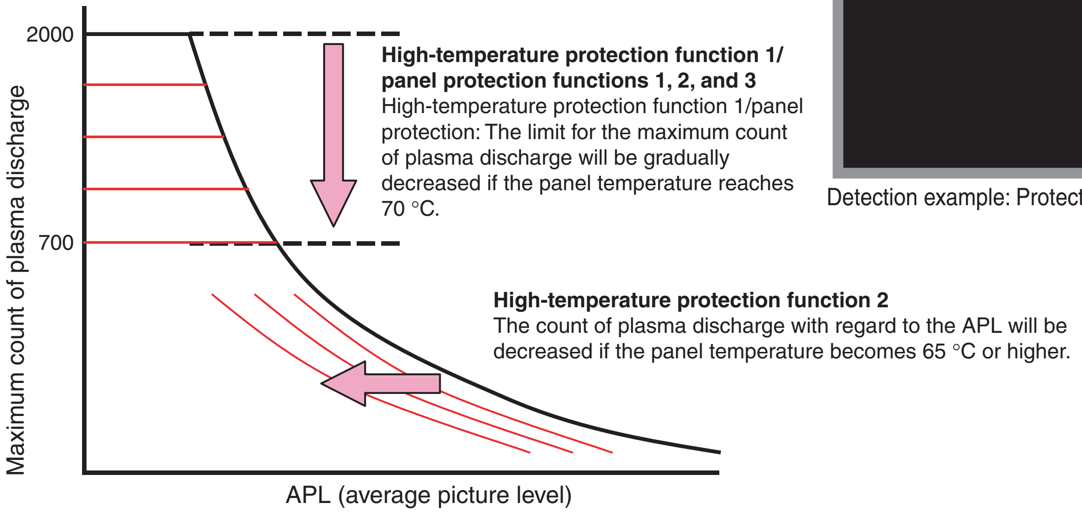
■Panel protection function 3 (protection against panel cracking)

A bright window, as shown in the figure on the right, on the screen increases the heat of the panel. If such a pattern is recognized on the screen, the limit for the maximum count of plasma discharge will be gradually decreased.

Note: How to decrease the brightness level in this function is the same as in high-temperature protection function 1.



Detection example: Protection against panel cracking



High-temperature protection function 1/ panel protection functions 1, 2, and 3
High-temperature protection function 1/panel protection: The limit for the maximum count of plasma discharge will be gradually decreased if the panel temperature reaches 70 °C.

High-temperature protection function 2
The count of plasma discharge with regard to the APL will be decreased if the panel temperature becomes 65 °C or higher.

5.6 OUTLINE OF THE OPERATION

5.6.1 PANEL DRIVE-POWER ON/OFF FUNCTION

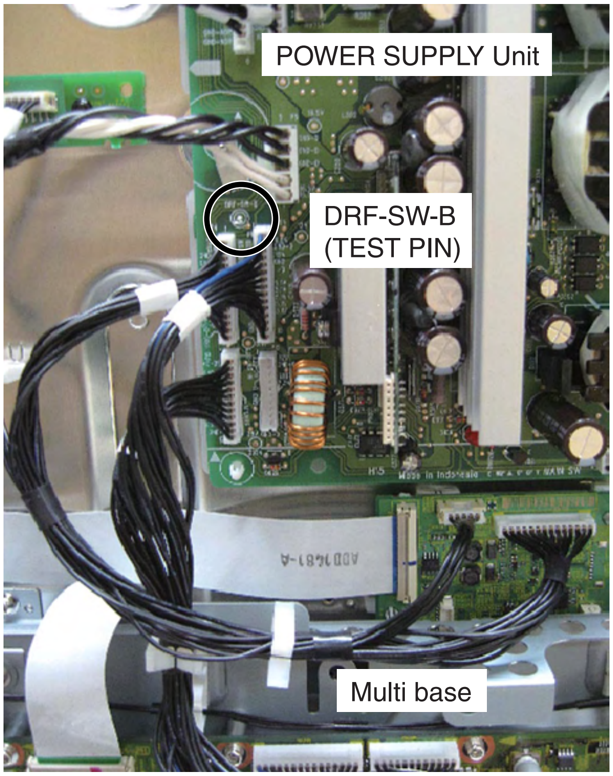
Function:
It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (Vsus, VAddress) in order to avoid a power down (PD).

Application:
1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the panel drive-power supply or with the other system power supply.

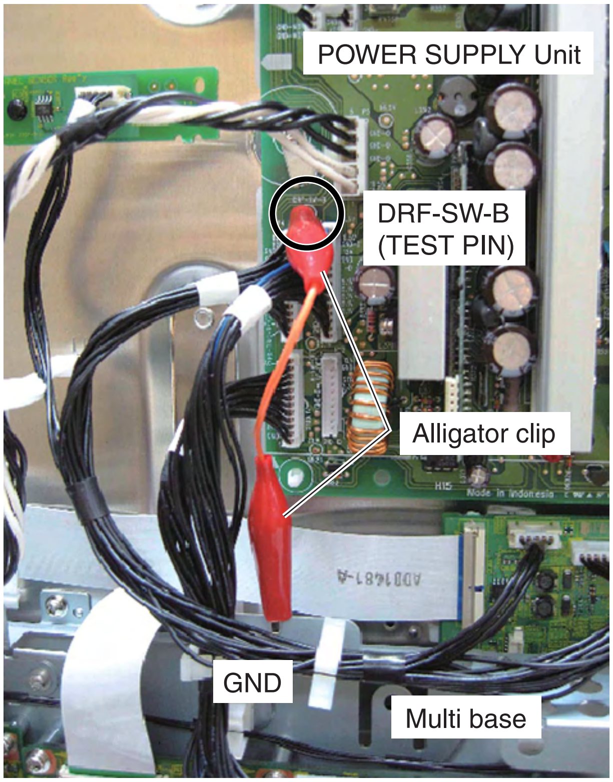
Method:
1. Short-circuit between the specified location of the POWER SUPPLY Unit and GND (Multi base section recommended), using a jumper with alligator clips (refer to the photos below).
2. Execute [DRV S00] by RS-232C command. ([DRV S01] for release)

Supplemental explanation:
- When the panel drive-power is in OFF state, there will be no PD, except PS_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the panel drive-power, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS-232C command control, [DRV S01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- The [DRV S00/S01] commands are effective during Standby mode. However, if no operation is performed within about 10 seconds or more, the panel drive-power OFF state will be canceled.
- When the main power switch is set to OFF, no command is accepted.
- The panel drive-power OFF state established by the [DRVS00] command will be canceled by unplugging the AC power cord, setting the main power switch to OFF, or by performing no operation for 10 seconds or more during Standby mode.

When the panel drive-power is ON



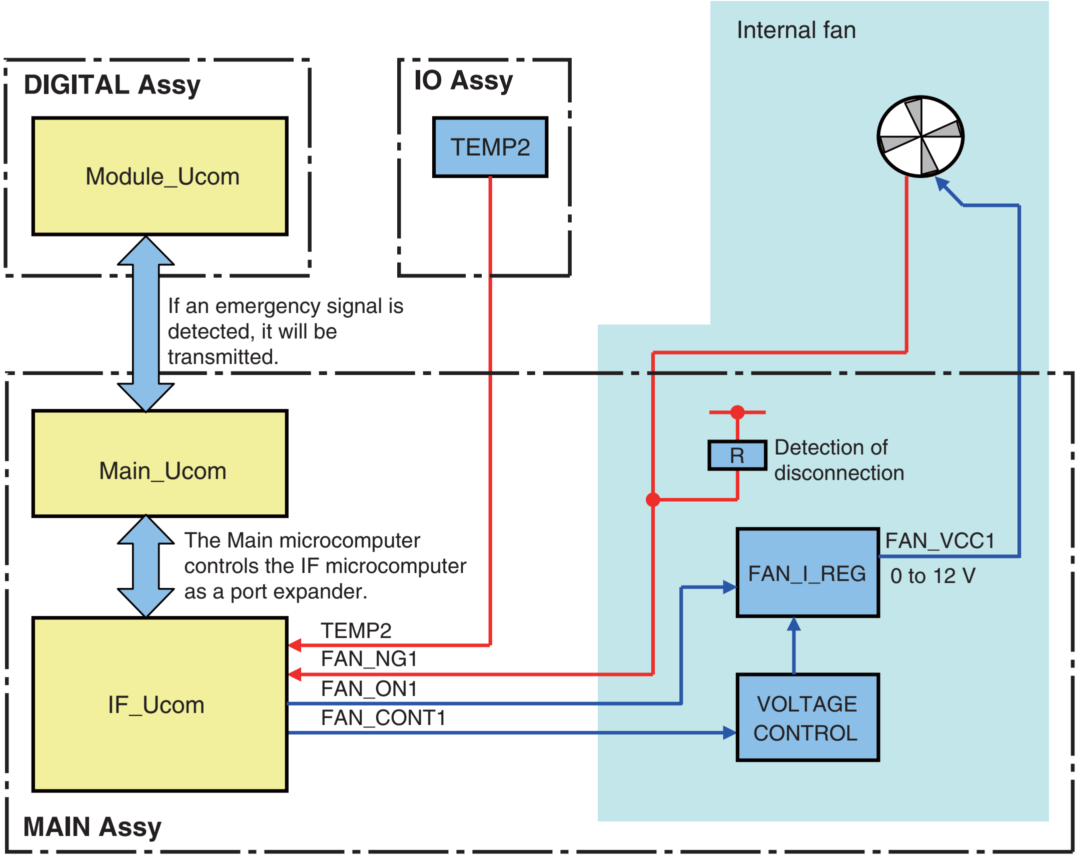
When the panel drive-power is OFF



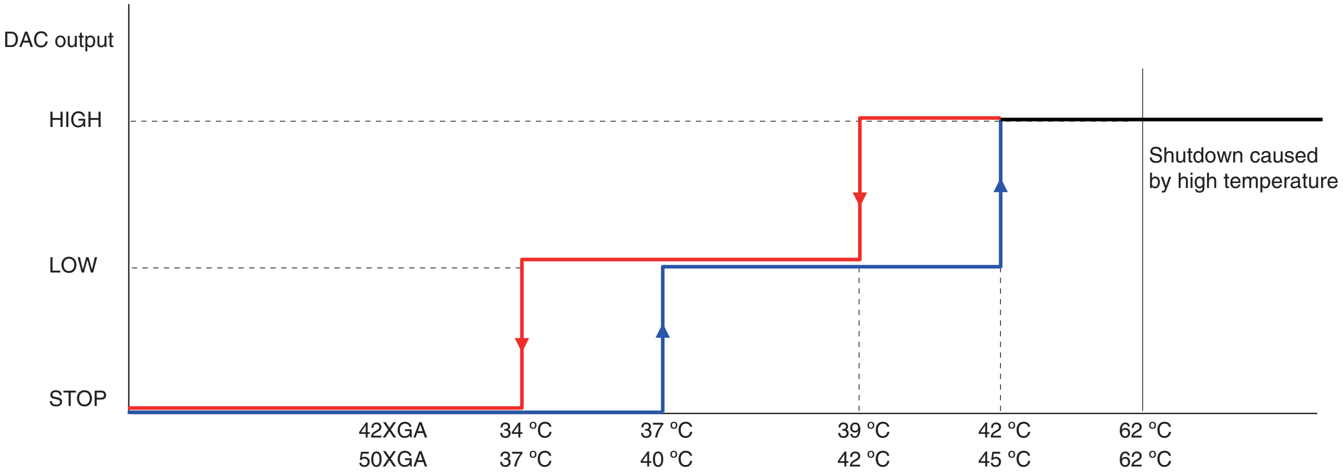
5.6.2 SPECIFICATION OF THE FAN CONTROL

■ Block diagram

The internal fan cools down the MTB and Power blocks.


Internal fan
DIGITAL Assy
Module_Ucom
IO Assy
TEMP2
If an emergency signal is detected, it will be transmitted.
Main_Ucom
R
Detection of disconnection
The Main microcomputer controls the IF microcomputer as a port expander.
FAN_I_REG
FAN_VCC1
0 to 12 V
TEMP2
FAN_NG1
FAN_ON1
FAN_CONT1
IF_Ucom
VOLTAGE CONTROL
MAIN Assy

■ Operation specifications



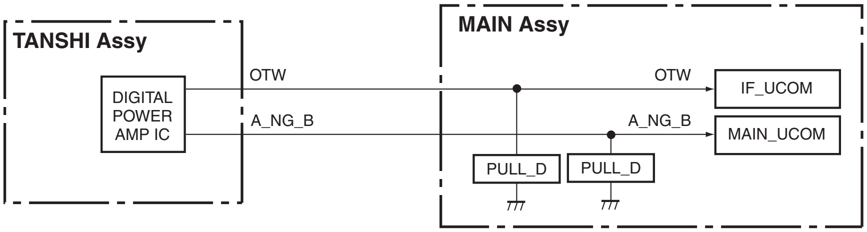
Notes:

- The operating temperature of the fan is higher than the ambient temperature, because the sensor temperature is read by the microcomputer.
- If the critical values for signals are displayed in the address circuit, the fan may be activated or be rotated at higher speed in response to values lower than the set temperature values shown above.

5.6.3 PROCESSING IN ABNORMALITY

Protection of the Power Amplifier

● Circuit configuration


TANSHI Assy
DIGITAL POWER AMP IC
OTW
A_NG_B
MAIN Assy
OTW
A_NG_B
IF_UCOM
MAIN_UCOM
PULL_D
PULL_D

● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
A_NG_B	AUDIO	Shutdown occurs when the signal is "L." 30 mS * 3 times	RST4 = "H" (always) (Monitoring starts 2 sec after the above conditions are established.)	The main CPU operations described below will be performed when either "A_NG_B = L" or "OTW = L" is detected (established) under the monitoring conditions.
OTW	AUDIO	Shutdown occurs when the signal is "L." 130 mS * 3 times		

● Operation specifications of the main CPU

(1) When a shutdown decision is made by the main CPU
- After a warning indication is displayed for 5 sec, a shutdown is generated (the blue LED flashes 5 times).
- A warning indication is displayed for all input-signal types.
- Example of a warning indication: "The speaker terminals are short-circuited. After reconnection, turn the unit on again." (For 50-inch models) (For 42-inch models, an indication declaring a forced power-off is displayed.)

(2) Display conditions
When the panel is on: A warning indication is displayed immediately.
When the panel is off: A warning indication is not displayed immediately but is displayed when the panel is turned on.

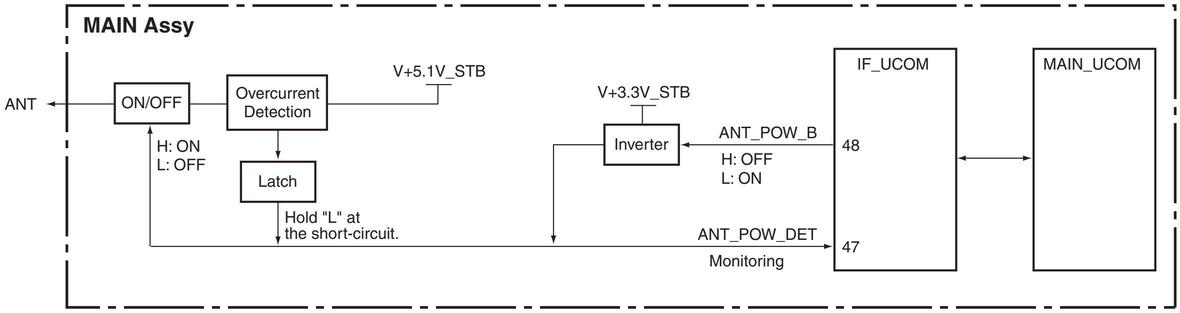
Note: A warning indication is displayed each time the panel is turned on if the conditions for a shutdown persist.

● Conditions for resetting the circuits

The circuits will be reset upon Standby ON/OFF.

DTB Antenna power supply

● Circuit configuration

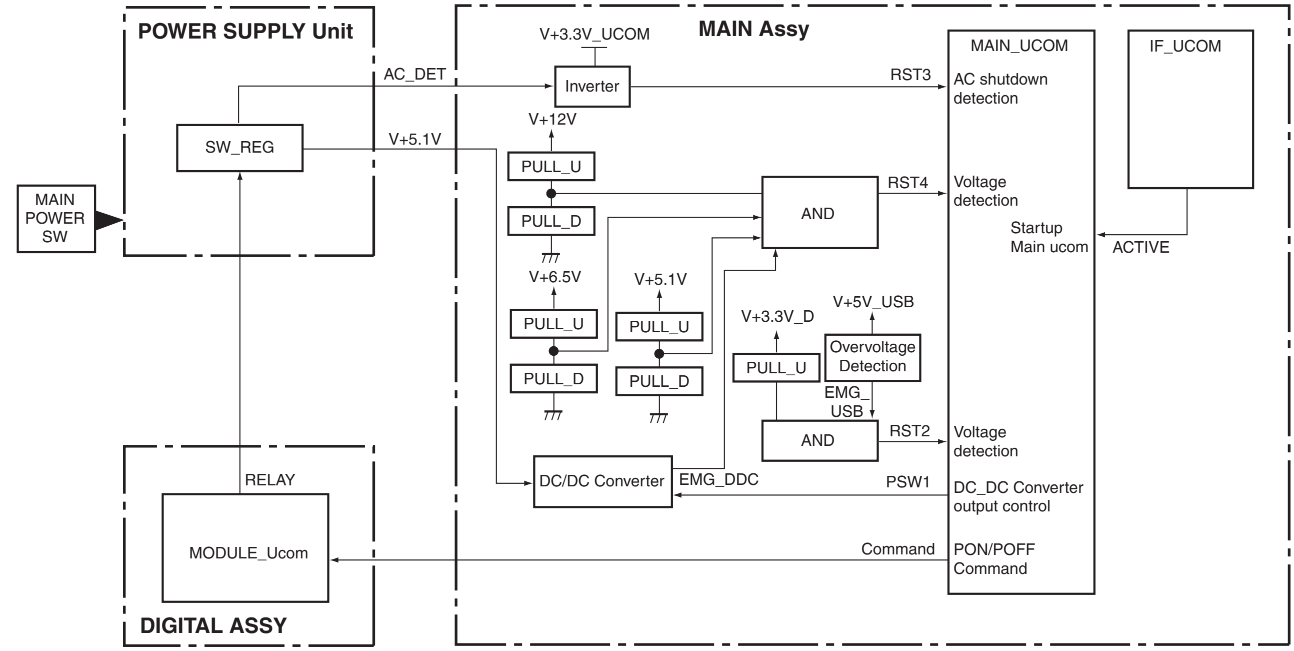

MAIN Assy
ANT
ON/OFF
Overcurrent Detection
V+5.1V_STB
H: ON
L: OFF
Latch
Hold "L" at the short-circuit.
V+3.3V_STB
Inverter
ANT_POW_B
H: OFF
L: ON
ANT_POW_DET
Monitoring
IF_UCOM
48
47
MAIN_UCOM

● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
ANT_POW_DET	DTB antenna short-circuited	Flashing of the LED starts when the signal is L (100 mS, 3 times)	RST4 = H and ANT_POW_B = L	If "ANT_POW_DET = L" is detected (established) under the monitoring conditions, an SD log is created, and the LED flashes for 60 sec. A shutdown process is not performed in the power system.

Power supply and DC-DC converter

● Circuit configuration

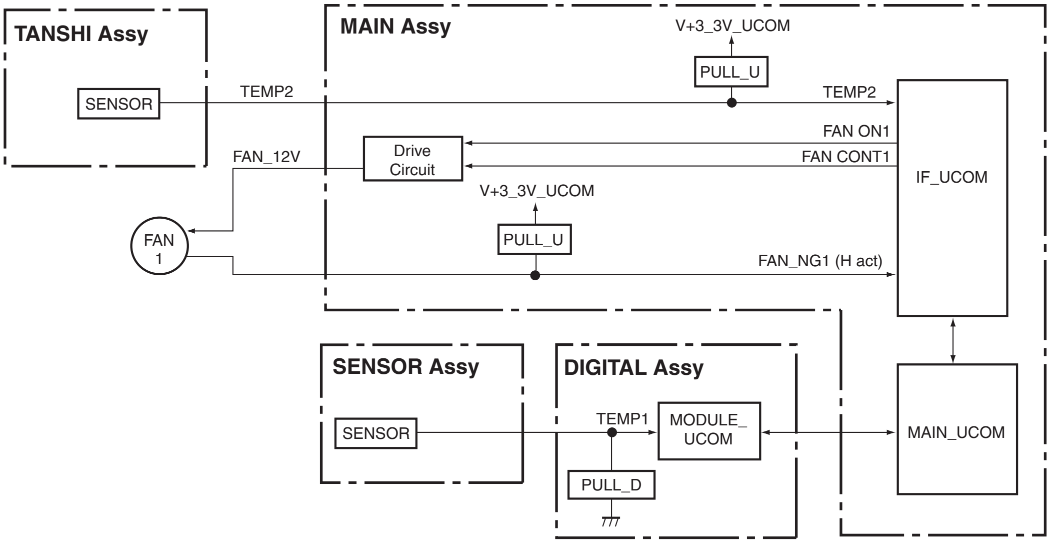

POWER SUPPLY Unit
SW_REG
MAIN POWER SW
AC_DET
V+5.1V
DIGITAL ASSY
RELAY
MODULE_Ucom
MAIN Assy
V+3.3V_UCOM
Inverter
V+12V
PULL_U
PULL_D
V+6.5V
PULL_U
PULL_D
V+5.1V
PULL_U
PULL_D
AND
V+3.3V_D
PULL_U
V+5V_USB
Overvoltage Detection
EMG_USB
AND
DC/DC Converter
EMG_DDC
RST3
RST4
RST2
PSW1
Command
MAIN_UCOM
AC shutdown detection
Voltage detection
Startup Main ucom
Voltage detection
DC_DC Converter output control
PON/POFF Command
IF_UCOM
ACTIVE

● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
RST2	ASIC power (M-DCDC)	Shutdown occurs when the signal is "L." for 5 sec after PSW1 is ON. or for 2 sec while the unit is ON.	• Panel ON (RST4 = H and PSW1 = L) • While awaiting restoration of RST2 (RST2 = L)	The SD timer starts when "RST2 = L" is detected under monitoring conditions. If "RST3 = H," "M_SW_DET_B = H," or "RST4 = L" is detected, or if a power-down or shutdown in the module microcomputer system is not generated, the unit waits for 30 mS. Then, if the SD timer continues to count for 2 sec or more, a shutdown is determined, and a shutdown process starts. A specific LED flash pattern (blue LED, 13 times) starts. The next PON operation is valid, and the flag is cleared upon the next power-on. If RST2 is H, a restoration process starts according to the latest power-on/-off status.
RST3	AC power	AC_OFF when the signal is "H."	• Active STB (including SD/PD statuses) • Functional STB • Panel ON • (Areas other than North America) While the main power switch is set to OFF (M_SW_DET_B = H) • (North America) While the main power switch is set to OFF (M_SW_DET_B = H) • While awaiting restoration of AC power (RST3 = H) • While awaiting restoration of RST2 (RST2 = L) • While awaiting restoration of RST4 (RST4 = L)	If "RST3 = H" (AC_OFF) is detected under the monitoring conditions, a power-off process starts. Monitoring of the RST3 port is continued, while monitoring of other ports is interrupted. Communication is controlled only by the IF microcomputer. The port outputs are set as specified. If the signal at the RST3 port continues to be H after 30 mS of waiting, monitoring is continued. If RST3 is L, a restoration process starts according to the latest power-on/-off status.
RST4	MAIN power (RELAY)	Shutdown occurs if the signal is "L." for 5 sec after RELAY is ON. or for 2 sec while the unit is ON or in Functional STB.	• Functional STB • Panel ON • (Areas other than North America) While the main power switch is set to OFF (M_SW_DET_B = H) • While awaiting restoration of RST2 (RST2 = L) • While awaiting restoration of RST4 (RST4 = L)	The SD timer starts when "RST4 = L" (power-off of devices in the functional STB system) is detected under monitoring conditions. The RST4 initialization process starts, and input monitoring, communication setting, and output-terminal setting are performed. The RST4-SD timer starts. If either "RST3 = H" or "M_SW_DET_B = H" is detected, or if a power-down or shutdown in the module microcomputer system is not generated, the unit waits for 30 mS. Then, if the SD timer continues to count for 2 sec or more, a shutdown is determined, and a shutdown process starts. A specific LED flash pattern (blue LED, 13 times) starts. The next PON operation is valid, and the flag is cleared upon the next power-on. If RST4 is H, a restoration process starts according to the latest power-on/-off status.

Fan and temperature sensor

● Circuit configuration



● Specifications for port monitoring

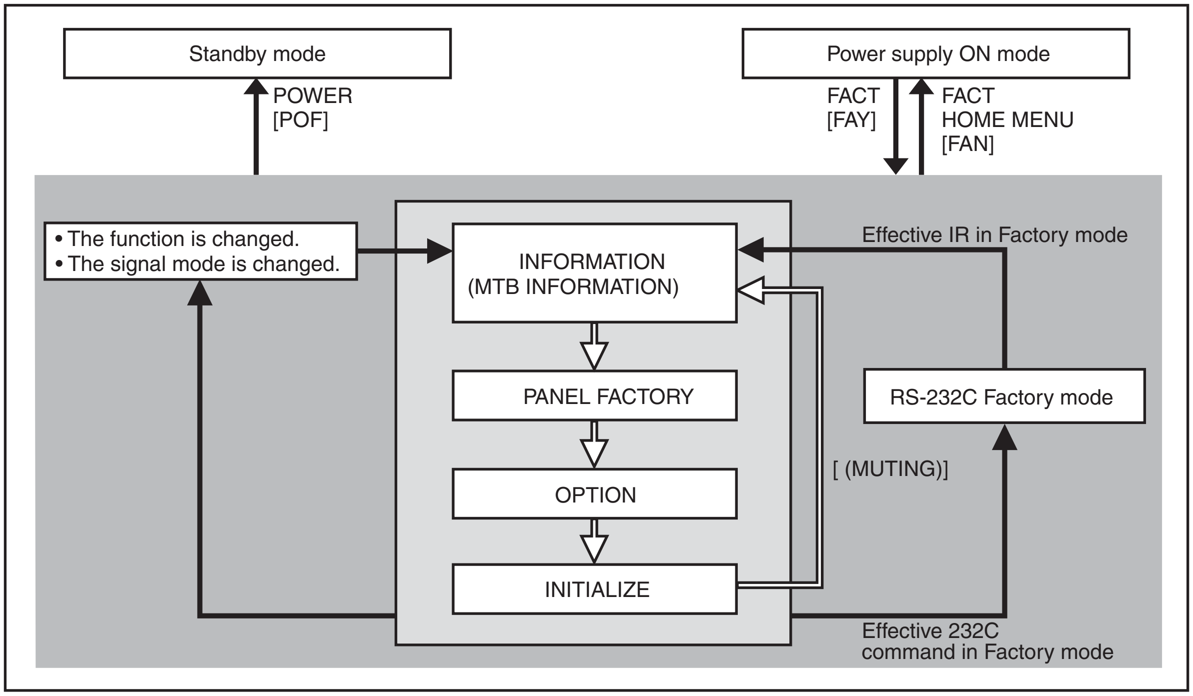
Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
FAN_NG1	FAN1	Shutdown occurs when the signal is "H." 1 S ∗ 3 times	RST4 = H and FAN_ON1 = H (Monitoring starts 3 sec after the above conditions are established.)	If FAN_NG1 (for details on detection logic, see "File of fan-control specifications") is detected (established) under the monitoring conditions, a shutdown process starts. A specific LED flash pattern (blue LED, 10 times) starts. The next PON operation is valid, and the flag is cleared upon the next power-on.
TEMP2	High temperature at MTB	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 1 S ∗ 3 times	RST4 = H (Monitoring starts 1 sec after the above conditions are established.)	If any values equal to or greater than minimum to require a shutdown are detected (established) under the monitoring conditions, a warning indication will be displayed for 30 sec, after which a shutdown process starts. A specific LED flash pattern (blue LED, 11 times) starts. The next PON operation is valid, and the flag is cleared upon the next power-on.
TMP_NG	High temperature in the drive circuits	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 200 mS ∗ 5 times (average)	Digital video RST2 = H	If any values equal to or greater than minimum to require a shutdown is detected (established) under the monitoring conditions, those changes in status will be transmitted to the main microcomputer via the UART. Upon receiving the data, a warning indication will be displayed for 30 sec, after which a shutdown process starts. The main microcomputer orders a specific LED flash pattern (blue LED, 4 times). The next PON operation is valid, and the flag is cleared upon the next power-on.
	Low temperature in the drive circuits			If any values equal to or greater than minimum to require a shutdown is detected (established) under the monitoring conditions, those changes in status will be transmitted to the main microcomputer via the UART. Upon receiving the data, the main microcomputer orders a specific LED flash pattern (blue LED, 4 times). The next PON operation is valid, and the flag is cleared upon the next power-on.

6. SERVICE FACTORY MODE

6.1 OUTLINE OF THE SERVICE FACTORY MODE

Operations during Service Factory mode are described here.

6.1.1 SERVICE FACTORY MODE TRANSITION CHART


Standby mode
Power supply ON mode
POWER
[POF]
FACT
[FAY]
FACT
HOME MENU
[FAN]
• The function is changed.
• The signal mode is changed.
INFORMATION
(MTB INFORMATION)
Effective IR in Factory mode
PANEL FACTORY
RS-232C Factory mode
OPTION
[(MUTING)]
INITIALIZE
Effective 232C
command in Factory mode

6.1.2 HOW TO ENTER/EXIT SERVICE FACTORY MODE

■ How to enter Service Factory Mode

By using a PDP service remote control)
- PDP service remote control : Press [FACTORY] key.

By issuing RS-232C commands)
- During normal Standby mode : Issue [PON] then [FAY].
- During normal operation mode : Issue [FAY].

■ How to exit Service Factory Mode

By using a PDP service remote control)
- PDP service remote control : press [FACTORY] key.
- Supplied remote control unit : press [HOME MENU] key.

By issuing RS-232C commands)
- Issue [FAN].

■ How to enter Service Factory Mode by Using the supplied Remote Control Unit

- Same as previous model. Please refer to the technical document (Service Know-how).

6.1.3 FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE

■ Fuctions whose setting are set to OFF

The settings for the following functions are set to OFF when Service Factory mode is entered (including when the “FAY” command is received) :

Function	Remarks
2-Screen Operation	Input function set on the main side is selected.
FREEZE	
Auto size, Side Mask	It is not performed during Factory mode.
ORBITER, Mask control	Central value operation (ORBITER)
Sleep Timer	Cancel the operation.
Room light sensor	Turn off the detecting operation excepting Regular A, D model (Setting data will be retained.)
Blue LED dimmer	Turn off the operation (Setting data will be retained.)
Power control	Turn off the operation (Setting data will be retained.)
Image position	Central value operation

■ User data

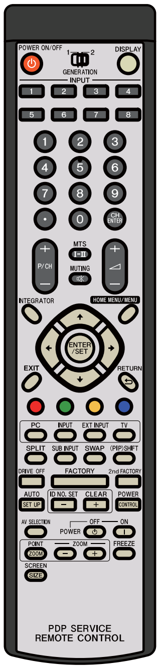
User data will be treated as follows :

- User data on picture-quality and audio-quality adjustments are not reflected, and factory-preset data are output (user data will be retained in memory). When the unit enters Service Factory mode, the current audio-quality adjustment data will be still be retained in memory.
- User-setting data will be applied to the various settings (items on the menus), signal formats, and the items that are associated with path change (HDMI settings, etc.).
- Data on screen (i.e., screen position; meaning clock dividers, and not including data on screen size).
  Are reset to the default values (data stored in memory will be retained).
  Screen size will be retained.

6.1.4 REMOTE CONTROL CODE IN SERVICE FACTORY MODE

Remote Control Keys	Basic Functions	Remarks
MUTING	Switching the main items.	Shifting to the next main item (top).
⬇ (DOWN)	Switching the subtitled items.	Shifting downward to the next subtitled item.
⬆ (UP)	Switching the subtitled items.	Shifting upward to the next upper layer.
⬅ (LEFT)	Decreasing the adjustment value.	Decreasing the adjustment value.
➡ (RIGHT)	Increasing the adjustment value.	Increasing the adjustment value.
ENTER/SET	Switching the layers.	Shifting downward or upward to the next lower or upper layer.
INPUT	Selecting INPUT.	Shifting the INPUT to the next function.
INPUTxx	Selecting INPUT.	Switching the INPUT to xx. (xx=1 to 6 etc)
CH+/P+	Increasing the channel number.	
CH-/P-	Decreasing the channel number.	
Numeric Keys	Function: TV	Function: TV (previously selected channel number is selected)
POWER	Power OFF.	Turning the power off.
FACTORY	Factory OFF (Factory mode)	In Factory mode, turning Factory mode off.
	Factory ON (Non-Factory mode).	In Non-Factory mode, turn Fuctory mode on.
HOME MENU	Menu ON.	In Factory mode, turn Factory mode off.
VOLUME+	Volume UP.	Increasing 10 the adjustment value. (PANEL FACTORY)
VOLUME-	Volume DOWN.	Decreasing 10 the adjustment value. (PANEL FACTORY)
DRIVE OFF (Note1)	Drive Mode OFF.	Turning Drive mode off.
INTEGRATOR	INTEGRATOR MENU ON.	Enter INTEGRATOR MODE.

(Note 1) When ten seconds have passed since the [DRIVE OFF] key was pressed at the standby, it becomes invalid.
Please press [POWER] key from the [DRIVE OFF] key pressing within ten seconds when you do power supply ON while driven OFF.



PDP service
remote control

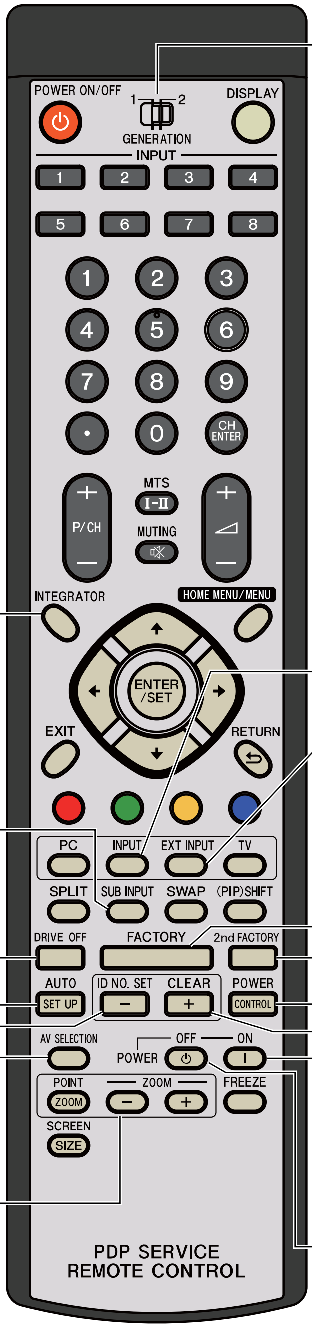
PDP-428XD
PDP-508XD

PDP-4280XD
PDP-5080XD

PDP-4280XA
PDP-5080XA

6.1.5 PDP SERVICE REMOTE CONTROL

- The keys labeled with the same names on the service remote control unit have the same functions as those of the supplied remote control unit. (See "2.3 PANEL FACILITIES.")
- For the keys not provided on the supplied remote control unit, see the explanations below:


POWER ON/OFF
1 2
GENERATION
DISPLAY
INPUT
1 2 3 4
5 6 7 8
1 2 3
4 5 6
7 8 9
• 0 CH ENTER
P/CH
MTS
I-II
MUTING
INTEGRATOR
HOME MENU/MENU
ENTER /SET
EXIT
RETURN
PC
INPUT
EXT INPUT
TV
SPLIT
SUB INPUT
SWAP
(PIP)SHIFT
DRIVE OFF
FACTORY
2nd FACTORY
AUTO
SET UP
ID NO. SET
CLEAR
POWER
CONTROL
AV SELECTION
POWER
OFF
ON
POINT
ZOOM
ZOOM
FREEZE
SCREEN
SIZE
PDP SERVICE
REMOTE CONTROL

INTEGRATOR
Press this key to enter Integrator mode.

SUB INPUT
Not used with this model.

DRIVE OFF
Press this key to turn off the panel drive.
For details on how to cancel this command, see the explanation for the DRV command.

AUTO SETUP
Use this key for automatic setup, such as the display position setting when an analog PC signal is input.

ID NO. SET
Not used with this model.

AV SELECTION
The AV SELECTION settings are changed cyclically.

POINT ZOOM
Not used with this model.

ZOOM +/-
Not used with this model.

GENERATION switch for remote control codes
This switch selects the generation of remote control codes to be transmitted:
1: The old-generation codes are transmitted.
2: The new-generation codes are transmitted.
With this generation plasma display, set the switch to 2.

INPUT
Press this key to cyclically change the input source.

EXT INPUT
Press this key to cyclically change only the external input source.

FACTORY
Press this key to enter Factory mode.

2nd FACTORY
Not used with this model.

POWER CONTROL
Not used with this model.

CLEAR
Not used with this model.

POWER ON
Press this key to turn on the unit.
This key cannot turn the unit off.

POWER OFF
Press this key to turn off the unit.
This key cannot turn the unit on.

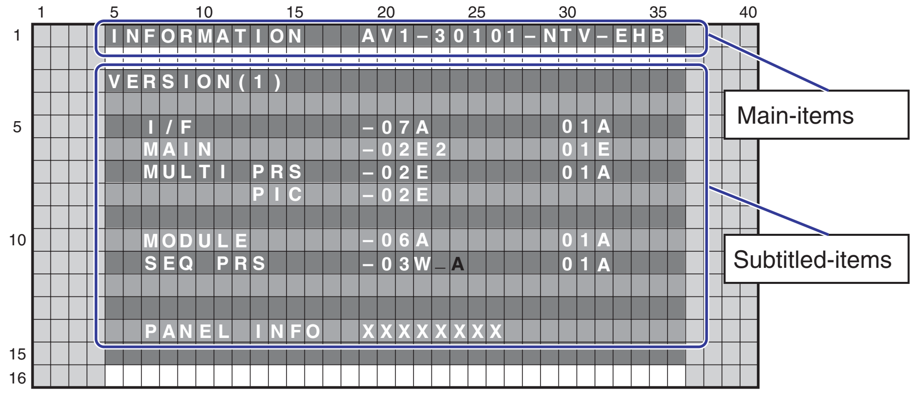
6.1.6 FACTORY HIERARCHICAL TABLE

Large Item	Middle Item	Small Item	Variable / Adjustment Range	Remarks
6.2.1 INFORMATION				
	6.2.1.1 VERSION (1)			
	6.2.1.2 VERSION (2)			
	6.2.1.3 MAIN NG	CLEAR <=>	NO <=> YES	
	6.2.1.4 TEMPERATURE			
	6.2.1.5 HOUR METER			
	6.2.1.6 HDMI SIGNAL INFO 1			
	6.2.1.7 HDMI SIGNAL INFO 2			
	6.2.1.8 VDEC SIGNAL INFO 1			
	6.2.1.9 VDEC SIGNAL INFO 2			
6.2.2 PANEL FACTORY (+)				
	6.2.2.1 PANEL INFORMATION			
	6.2.2.2 PANEL WORKS			
	6.2.2.3 POWER DOWN			
	6.2.2.4 SHUT DOWN			
	6.2.2.5 PANEL-1 ADJ (+)	VOL SUS <=>	000 to 255	Equivalent to VSU (Setting value: Factory adjustment value)
		VOL OFFSET <=>	000 to 255	Equivalent to VOF (Setting value: Factory adjustment value)
		VOL RST P <=>	000 to 255	Equivalent to VRP (Setting value: Factory adjustment value)
		VOL XPOFS1 <=>	000 to 255	Equivalent to VX1 (Setting value: Factory adjustment value)
		VOL XPOFS2 <=>	000 to 255	Equivalent to VX2 (Setting value: Factory adjustment value)
		VOL YNOFS1 <=>	000 to 255	Equivalent to VY1 (Setting value: Factory adjustment value)
		VOL YNOFS3 <=>	000 to 255	Equivalent to VY3 (Setting value: Factory adjustment value)
		VOL YNOFS4 <=>	000 to 255	Equivalent to VY4 (Setting value: Factory adjustment value)
		RESET1ST_KSB <=>	112 to 144	Equivalent to R1K (Setting value: 128 fixed)
		RESET2ND_KSB <=>	112 to 144	Equivalent to R2K (Setting value: 128 fixed)
		YSTL_1SF_KSB <=>	112 to 144	Equivalent to Y1K (Setting value: 128 fixed)
		YSTL_1SF_HZ <=>	112 to 144	Equivalent to Y1Z (Setting value: 128 fixed)
		XSUS_1ST_B <=>	112 to 144	Equivalent to X1B (Setting value: 128 fixed)
		YSUS_2ND_B <=>	112 to 144	Equivalent to Y2B (Setting value: 128 fixed)
		XSUS_3RD_B <=>	112 to 144	Equivalent to X3B (Setting value: 128 fixed)
		YSUS_B <=>	112 to 144	Equivalent to YSB (Setting value: 128 fixed)
		XSUS_B <=>	112 to 144	Equivalent to XSB (Setting value: 128 fixed)
		YSTL_KSB <=>	112 to 144	Equivalent to YTK (Setting value: 128 fixed)
		YSTL_HZ <=>	112 to 144	Equivalent to YTZ (Setting value: 128 fixed)
		YSTL_2SF_KSB <=>	112 to 144	Equivalent to Y2K (Setting value: 128 fixed)
		YSTL_2SF_HZ <=>	112 to 144	Equivalent to Y2Z (Setting value: 128 fixed)
		YSTL_FMR_KSB <=>	112 to 144	Equivalent to YNK (Setting value: 128 fixed)
		YSTL_FMR_HZ <=>	112 to 144	Equivalent to YNZ (Setting value: 128 fixed)
		SUS FREQ. <=>	MODE 1 to MODE 8	Equivalent to SFR (Setting value: MODE1)
	6.2.2.6 PANEL-2 ADJ (+)	R-HIGH <=>	000 to 511	Equivalent to PRH (Setting value: Factory adjustment value)
		G-HIGH <=>	000 to 511	Equivalent to PGH (Setting value: Factory adjustment value)
		B-HIGH <=>	000 to 511	Equivalent to PBH (Setting value: Factory adjustment value)
		R-LOW <=>	000 to 999	Equivalent to PRL (Setting value: 512 fixed)
		G-LOW <=>	000 to 999	Equivalent to PGL (Setting value: 512 fixed)
		B-LOW <=>	000 to 999	Equivalent to PBL (Setting value: 512 fixed)
		ABL <=>	000 to 255	Equivalent to ABL (Setting value: Factory adjustment value)
	6.2.2.7 PANEL FUNCTION (+)	R-LEVEL <=>	LV-0 to LV-7	Equivalent to RRL (Setting value: Lv-0)
		G-LEVEL <=>	LV-0 to LV-7	Equivalent to RGL (Setting value: Lv-0)
		B-LEVEL <=>	LV-0 to LV-7	Equivalent to RBL (Setting value: Lv-0)
		ADDRESS L1 <=>	PH0 to PH9	Equivalent to AP0S*- (Setting value: PH1)
		ADDRESS L2 <=>	PH0 to PH9	Equivalent to AP0S-* (Setting value: PH2)
		ADDRESS L3 <=>	PH0 to PH9	Equivalent to AP1S*- (Setting value: PH0)
		ADDRESS L4 <=>	PH0 to PH9	Equivalent to AP1S-* (Setting value: PH1)
		ADDRESS U1 <=>	PH0 to PH9	Equivalent to AP2S*- (Setting value: PH0)
		ADDRESS U2 <=>	PH0 to PH9	Equivalent to AP2S-* (Setting value: PH0)
		ADDRESS U3 <=>	PH0 to PH9	Equivalent to AP3S*- (Setting value: PH0)
		ADDRESS U4 <=>	PH0 to PH9	Equivalent to AP3S-* (Setting value: PH0)
		STK MODE <=>	OFF <=> MODE1 to MODE8 <=>	Equivalent to SMK (Setting value: MODE1)
	6.2.2.8 ETC. (+)	BACKUP DATA <=>	NO OPRT <=> TRANSFER or ERR	Equivalent to BCP
		DIGITAL EEPROM <=>	NO OPRT <=> DELETE/REPAIR	Equivalent to FAJ/UAJ
		PD INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CPD
		SD INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CSD
		HR-MTR INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CHM
		PM/B1-B5 <=>	NO OPRT <=> CLEAR	Equivalent to CPM
		P COUNT INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CPC
		MAX TEMP. <=>	NO OPRT <=> CLEAR	Equivalent to CMT
	6.2.2.9 RASTER MASK SETUP (+)	MASK OFF	<=> 48V <=> 50V <=> 60V <=> 60P <=> 72V <=> 75V <=>	Equivalent to MKS+S00
		RST MASK 01 <=>		Equivalent to MKS+S51
		• • •		• • •
		RST MASK 25 <=>		Equivalent to MKS+S75

*: Setting value

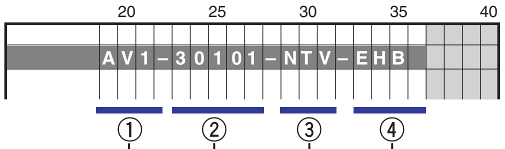
Large Item	Middle Item	Small Item	Variable / Adjustment Range	Remarks
6.2.2 PANEL FACTORY (+)				
	6.2.2.10 PATTERN MASK SETUP (+)	MASK OFF	<=> 48V <=> 50V <=> 60V <=> 60P <=> 72V <=> 75V <=>	Equivalent to MKS+S00
		PTN MASK 01 <=>		Equivalent to MKS+S01
		• • •		• • •
		PTN MASK 49 <=>		Equivalent to MKS+S49
	6.2.2.11 COMBI MASK SETUP (+)	MASK OFF	<=> 48V <=> 50V <=> 60V <=> 60P <=> 72V <=> 75V <=>	Equivalent to MKC+S00
		CMB MASK 01 <=>		Equivalent to MKC+S01
		• • •		• • •
		CMB MASK 17 <=>		Equivalent to MKC+S17
6.2.3 OPTION				
	6.2.3.1 EDID WRITE MODE <=>		DISABLE <=> ENABLE	Exclusively used for production line
	6.2.3.2 CH PRESET <=>		USER <=> FACTORY	
	6.2.3.3 SYNC DET (+)			for the technical analysis
6.2.4 INITIALIZE				
	6.2.4.1 SIDE MASK LEVEL (+)	SIDE MASK LEVEL <=>		
	6.2.4.2 FINAL SETUP	DATA RESET <=>	NO <=> YES	
	6.2.4.3 Wide XGA AUTO <=>		DISABLE <=> ENABLE	Exclusively used for technical analysis (details omitted)

6.1.7 INDICATIONS IN SERVICE FACTORY MODE



```
INFORMATION   AV1–30101–NTV–EHB
VERSION(1)

  I/F            –07A       01A
  MAIN           –02E2      01E
  MULTI  PRS     –02E       01A
         PIC     –02E

  MODULE         –06A       01A
  SEQ  PRS       –03W_A     01A


  PANEL  INFO    XXXXXXXX
```

■ Main-item indications



① Input function

Input Functions	OSD
AV 1 to 5	AV 1 to 5
Terrestrial Analog Wave	AIR
Terrestrial Digital Wave (excepting Regular A model)	ARD
Cable	CBL
Home Gallery (Step-up D model only)	HG
PC	PC

② SIG mode and Screen size

Note: See SIG-Mode Tables. (See next page.)

③ Color system and Signal type

Color System and Signal Type	OSD	
	At Composite Input	At S-connector Input
NTSC	NTV	NTS
PAL	PLV	PLS
PAL M	PMV	PMS
PAL N	PNV	PNS
PAL 60	P6V	P6S
SECAM	SCV	SCS
4.43 NTSC	4NV	4NS
BLACK/WHITE	BWV	BWS
Y/CB/CR	CBR	
Y/PB/PR	PBR	
RGB	RGB	
Digital Video signal	DIG	

④ Option (Destination, Panel Generation, etc.)

Options	OSD
Step-up D model	EHB
Regular D model	ESB
Regular A model	ERB

② SIG Mode and Screen size (by User is displayed)

1st and 2nd characters : Resolution of the input signal
3rd and 4th characters : Refresh rate of the input signal
5th character : Selection of the screen size

■ Input signal mode table for video signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
10	50	SDTV*625i	50.000	15.750
	60	SDTV*525i	60.000	15.750
20	50	SDTV*625p	50.000	31.500
	60	SDTV*525p	60.000	31.500
30	50	HDTV*1125i	50.000	33.750
	60	HDTV*1125i	60.000	33.750
40	50	HDTV*750p	50.000	45.000
	60	HDTV*750p	60.000	45.000
50	24	HDTV*1125p	24.000	27.000
	50	HDTV*1125p	50.000	56.250
	60	HDTV*1125p	60.000	67.500

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Input signal mode table for PC signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
C1	70	720 x 400	70.087	31.469
C2	60	640 x 480	59.940	31.469
C4	60	800 x 600	60.317	37.879
C6	60	1280 x 720	60.000	44.800
C7	60	1024 x 768	60.004	48.363
C9	60	1360 x 768	60.015	47.712
D6	60	1280 x 1024	60.000	64.000

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Current selection of the screen size

5th Character	GUI Notation	VIDEO	PC	Remarks
0	DOT BY DOT	● (∗)	–	
1	4:3	●	●	
2	FULL	●	●	
3	ZOOM	●	–	
4	CINEMA	●	–	
5	WIDE	●	–	
6	FULL 14:9	●	–	
7	CINEMA 14:9	●	–	

●: supported, –: unsupported

(∗): It is effective only with models having the Full HD panel.

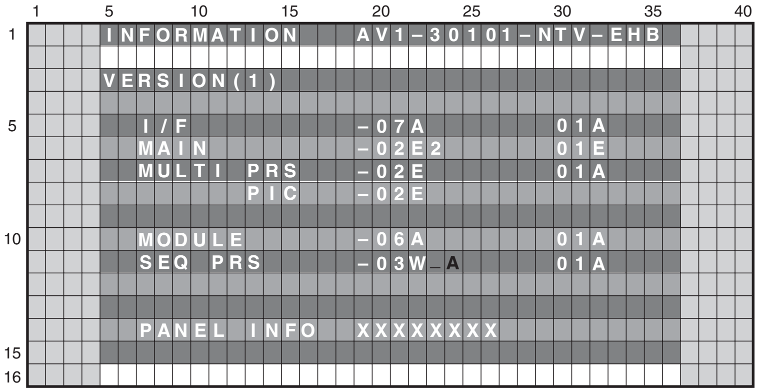
6.2 DETAILS OF FACTORY MENU

6.2.1 INFORMATION

■ Operation items

No.	Function/Display	Context	RS-232C Command
6.2.1.1	VERSION (1)	The software versions for each microcomputer are displayed. (Common part)	QS1
6.2.1.2	VERSION (2)	The Flash memory versions for each device are displayed. (Individual part)	QSE
6.2.1.3	MAIN NG	The Shutdown Message ID/Event Times in Main Microcomputer are displayed.	QNG
6.2.1.4	TEMPERATURE	The Temperature/FAN rotating status in Main Microcomputer are displayed.	QMT
6.2.1.5	HOUR METER	The HOUR METER/P-COUNT information are displayed.	QS3
6.2.1.6	HDMI SIGNAL INFO 1	The Information of HDMI information files are displayed.	–
6.2.1.7	HDMI SIGNAL INFO 2		
6.2.1.8	VDEC SIGNAL INFO 1	Display the Signal Information on VDEC.	–
6.2.1.9	VDEC SIGNAL INFO 2		

6.2.1.1 VERSION (1)



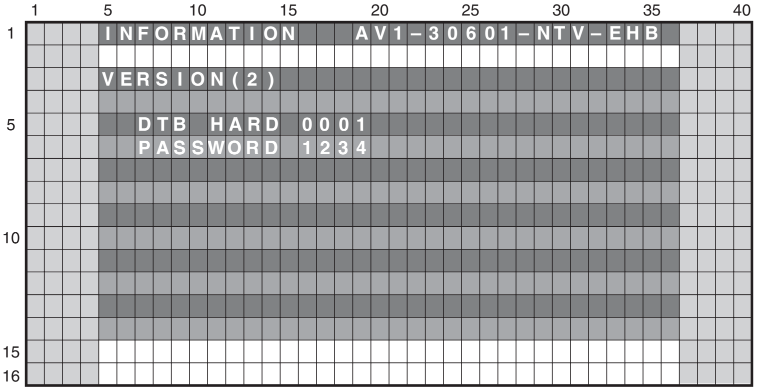
```
    INFORMATION   AV1–30101–NTV–EHB

    VERSION(1)

      I/F         –07A       01A
      MAIN        –02E2      01E
      MULTI PRS   –02E       01A
            PIC   –02E

      MODULE      –06A       01A
      SEQ PRS     –03W_A     01A


      PANEL INFO  XXXXXXXX
```

Microcomputer	Item Name	Display Example (Execution program block)	Display Example (Boot block)
I/F microcomputer	I/F	-07A	01A
Main microcomputer	MAIN	-02E2	01E
Multi processor	MULTI PRS	-02E	01A
Multi processor	MULTI PIC	-02E	
Module microcomputer	MODULE	-06A	01A
Sequence processor	SEQ PRS	-03W_A	01A

Note: In the 29-32 rows, the Boot version information on each device is displayed.
In the 19-24 rows, the version of the execution program is displayed.

- **PANEL INFO:** It displays the generation of the panel, inchage and the type of the panel. For details on display values and settings, see "10: Panel Information" in "9.3.1. QS1 (PANEL STATUS)."

6.2.1.2 VERSION (2)


1
5
10
15
20
25
30
35
40
1
5
10
15
16

INFORMATION AV1-30601-NTV-EHB

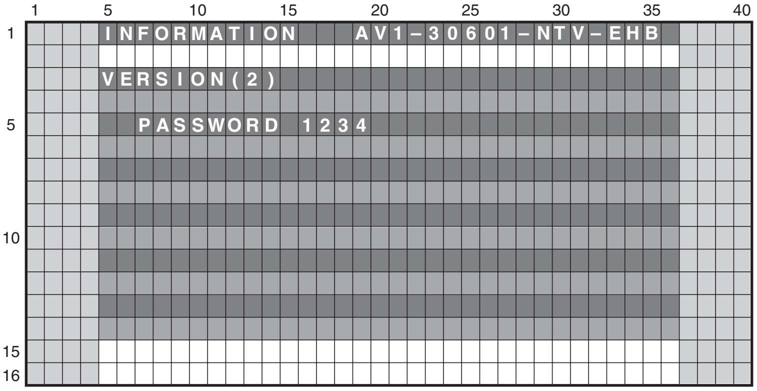
VERSION(2)

DTB HARD 0001

PASSWORD 1234

Step-up D / Regular D

Meaning	Item Name	Display Example
DTV Hardware Version	DTV HARD	0001
User Password	PASSWORD	1234


1
5
10
15
20
25
30
35
40
1
5
10
15
16

INFORMATION AV1-30601-NTV-EHB

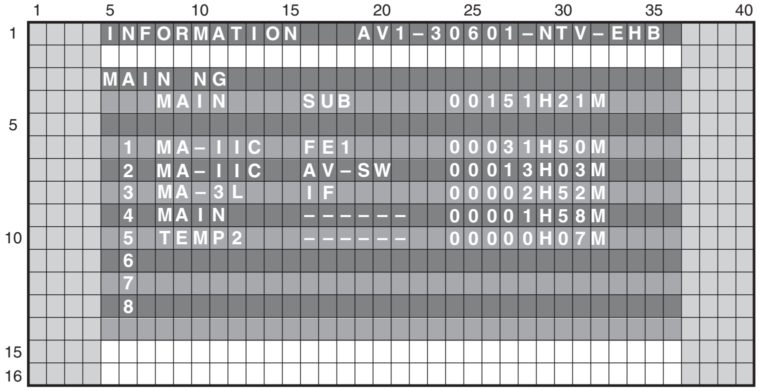
VERSION(2)

PASSWORD 1234

Regular A

Meaning	Item Name	Display Example
User Password	PASSWORD	1234

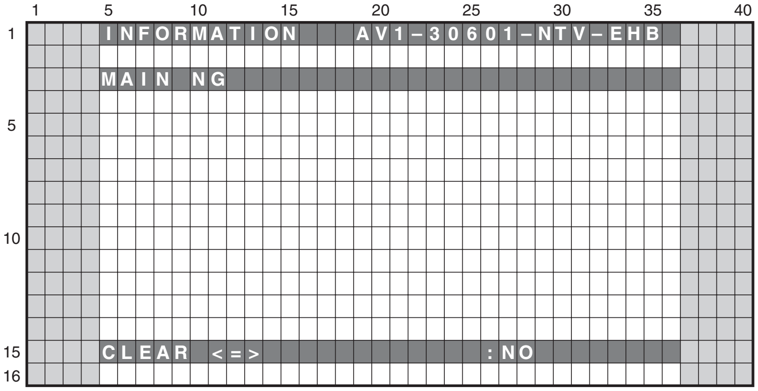
6.2.1.3 MAIN NG



```
INFORMATION    AV1-30601-NTV-EHB

MAIN NG
   MAIN      SUB      00151H21M

 1 MA-IIC    FE1      00031H50M
 2 MA-IIC    AV-SW    00013H03M
 3 MA-3L     IF       00002H52M
 4 MAIN      ------   00001H58M
 5 TEMP2     ------   00000H07M
 6
 7
 8
```

MTB side's Shutdown NG information

OSD: MAIN	OSD: SUB	Cause of Shutdown
AUDIO	----	Short-circuit of the speaker terminal or failure of audio amplifier.
MODULE	----	Failure of communication to Module microcomputer.
MA-3L		3-wire Serial Communication of Main microcomputer.
	IF	Communication failure of IF microcomputer
	MULTI	Multi Processor communication failure
MA-IIC		IIC Communication failure of Main microcomputer
	FE1	Analog Tuner 1
	MSPMAP	MSP/MAP
	AV-SW	AV Switch
	RGB-SW	RGB Switch
	VDEC	VDEC
	SDRAM	VDEC-SDRAM
	ADC	AD/PLL
	HDMI	HDMI
	DEMOD	COFDM error
MAIN		Communication failure of Main microcomputer
FAN	FAN1	Fan stopped
	FAN2	Fan stopped (Only with models having the Full HD panel)
TEMP2		Abnormally high temperature at MTB.
DTUNER		Failure of Digital Tuner
	PS/RST	Failure to DTV Starting
	D-ANT	Abnormally in the anntenna power supply of DTV tuner
RST-MA	M-DCDC	Abnormally in RST2 of MTB. (power decrease of DC-DC converter)
	RELAY	Relay Power Supply
MA-EEP		IIC communication line between EEPROM and MAIN


1
5
10
15
20
25
30
35
40
1
5
10
15
16

INFORMATION AV1-30601-NTV-EHB

MAIN NG

CLEAR <=> :NO

Operation:

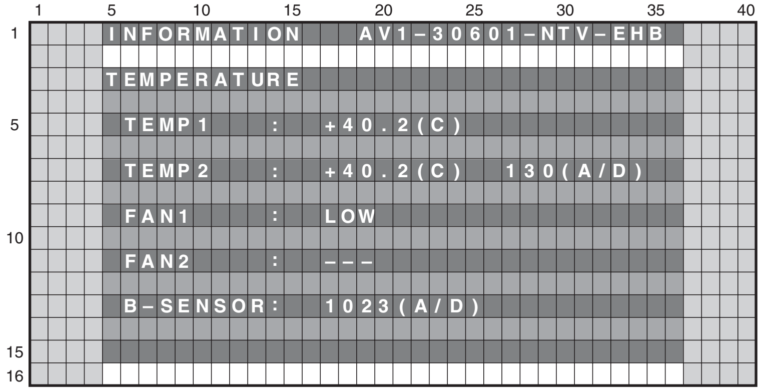
Even if [⬅] key or [➡] key is pressed, {CLEAR <=> :YES} ⇔ {CLEAR <=> :NO} is repeated.
If the [ENTER/SET] key is kept on pressing for 5 second when the status of this menu is <YES>, clear process will begin.

A

6.2.1.4 TEMPERATURE

A present temperature and the FAN rotation are displayed.
If either [⬅] key or [➡] key is pressed, the display data is refreshed.

B



```
INFORMATION   AV1-30601-NTV-EHB

TEMPERATURE

  TEMP1     :   +40.2(C)

  TEMP2     :   +40.2(C)   130(A/D)

  FAN1      :   LOW

  FAN2      :   ---

  B-SENSOR:     1023(A/D)
```

- **Display/Meaning**

TEMP1 : The temperature of the sensor on the panel side is displayed by the centigrade.

TEMP2 : The temperature conversion display is done with 10 bit the A/D input value of IF uCOM 90 pin (AN4). It is displayed by both the centigrade (C) and 8 bit A/D value.
(Remark:When temperature (C) of the sensor becomes more than a specified temperature, the shutdown start of processing.)

C

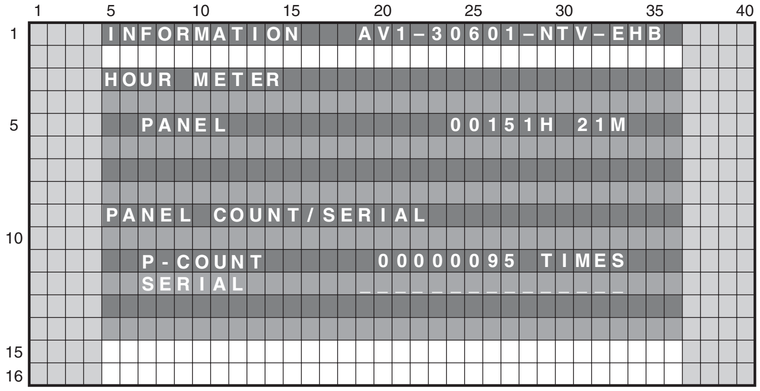
FAN1 : The value of the FAN rotating state is displayed.
STOP: stopped, LOW: slow speed, HIGH: high speed.

FAN2 : The value of the rotation state of FAN is displayed.
During a rotation of FAN, 8bit D/A value output from 2 pin (DA0) of IF uCOM is displayed.
It is displayed with OFF during a stop (only for the FHD model).

B-SENSOR : The value that indicated the degree of brightness input into an Room light sensor is displayed.
AD value when the output of the Room light sensor was input into 89 pin (AN5) of IF uCOM is displayed.
However, the Regular A, D model is not displayed.

6.2.1.5 HOUR METER

D



```
INFORMATION   AV1-30601-NTV-EHB

HOUR METER

    PANEL                   00151H  21M



PANEL  COUNT/SERIAL

    P-COUNT            00000095  TIMES
    SERIAL             ______________
```

E

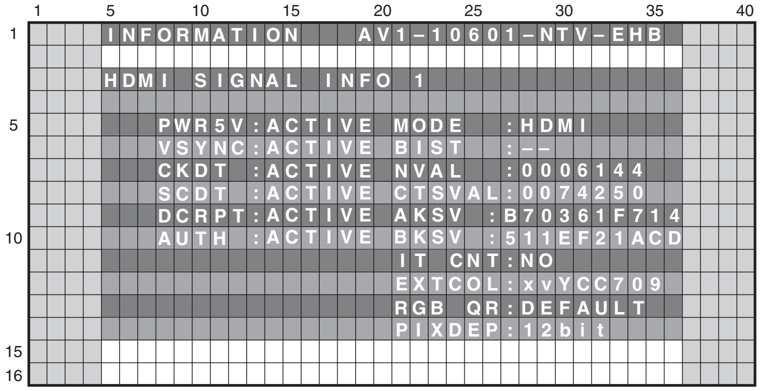
- **Display/Meaning**

Meaning	Item Name	Display Example	Corresponding RS-232C Command
HOUR METER (PANEL)	PANEL	00151H 21M	QS3
POWER ON COUNTER	P-COUNT	00000095 TIMES	QS3
SYSTEM SERIAL	SERIAL		QS3

Note: The PANEL-side's HOUR METER/P-COUNT acquires information from the PANEL-side.

F

6.2.1.6 HDMI SIGNAL INFO 1

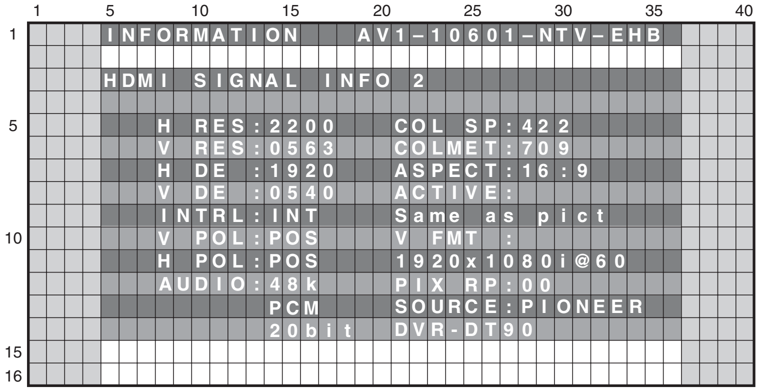


```
INFORMATION   AV1-10601-NTV-EHB

HDMI SIGNAL INFO 1

   PWR5V:ACTIVE MODE  :HDMI
   VSYNC:ACTIVE BIST  :--
   CKDT :ACTIVE NVAL  :0006144
   SCDT :ACTIVE CTSVAL:0074250
   DCRPT:ACTIVE AKSV :B70361F714
   AUTH :ACTIVE BKSV :511EF21ACD
                IT CNT:NO
                EXTCOL:xvYCC709
                RGB QR:DEFAULT
                PIXDEP:12bit
```

Displays the input signal information of HDMI terminal

Item	Meaning
PWR5V	+5 V power detection (18 pin of HDMI terminal)
VSYNC	VSYNC detection
CKDT	Clock detection
SCDT	SYNC detection
DCRPT	HDCP decryption status
AUTHEN	HDCP authentication status
MODE	HDMI mode status
BIST	----
NVAL	N value
CTSVAL	CTS value
AKSV	Shadow AKSV value
BKSV	Shadow BKSV value
IT CNT	IT content (AVI info)
EXTCOL	Extension calorimetry (AVI info)
RGV QR	RGB range (AVI info)
PIXDEP	Number of pixel/bit

6.2.1.7 HDMI SIGNAL INFO 2



```
    INFORMATION   AV1-10601-NTV-EHB

    HDMI SIGNAL INFO 2

       H RES:2200   COL SP:422
       V RES:0563   COLMET:709
       H DE :1920   ASPECT:16:9
       V DE :0540   ACTIVE:
       INTRL:INT    Same as pict
       V POL:POS    V FMT :
       H POL:POS    1920x1080i@60
       AUDIO:48k    PIX RP:00
             PCM    SOURCE:PIONEER
             20bit  DVR-DT90
```

Displays input signal status of HDMI terminal

Display Item	Meaning
H RES	Number of horizontal pixels (decimal)
V RES	Number of vertical lines (decimal)
H DE	Number of effectively horizontal pixels (decimal)
V DE	Number of effectively vertical lines (decimal)
INTRL	Interlace (=INT) or progressive (=PRG)
V POL	VSYNC polarity
H POL	HSYNC polarity
AUDIO (first line)	Sampling frequency. (ex. DVD: 48kHz, CD: 44.1kHz) *1
AUDIO (second line)	PCM (PCM) or No PCM (=no PCM)
AUDIO (third line)	Quantization bit
COL SP	Color space (AVI Info) (422 or 444 or RGB) *2
COLMET	Calorimetry (AVI Info) (SD: 601, HD:709) *2
ASPECT	Aspect (AVI Info)
ACTIVE	Video active format (AVI Info)
V FMT	Video identification code (AVI Info)
PIX RP	Pixel repeat value for 2880 dot
SOURCE (first line)	Vendor name of the emission device
SOURCE (second line)	Model name of the emission device

*1: Please confirm whether to be displayed here when the sound is not emitted.

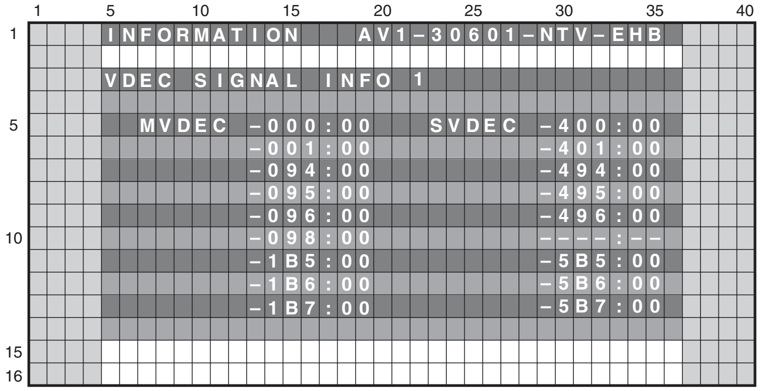
*2: There is a possibility of not suitable for the state of the source equipment when the color is amusing.

Display of HDMI FACTORY and correspondence of resolution

Please confirm the following 5 items when the picture doesn't come out.

Input Signal	FACTORY Display				
	H RES	V RES	H DE	V DE	V FMT
480i (525i) @ 60	858	262 or 263	720	240	720x480i @ 60
480p (525p) @ 60	858	525	720	480	720x480p @60
1080i (1125i) @ 60	2200	562 or 563	1920	540	1920x1080i @ 60
720p (750p) @ 60	1650	750	1280	720	1280x720p @ 60
1080p (1125p) @ 60	2200	1125	1920	1080	1920x1080p @ 60
576i (625i) @ 50	864	312 or 313	720	288	720x576i @50
576p (625p) @ 50	864	625	720	576	720x576p @ 50
1080i (1125i) @ 50	2640	562 or 563	1920	540	1920x1080i @ 50
720p (750p) @ 50	1980	750	1280	720	1280x720p @ 50
1080p (1125p) @ 50	2640	1125	1920	1080	1920x1080p @50
1080p (1125p) @ 24	2750	1125	1920	1080	1920x1080p @ 24

6.2.1.8 VDEC SIGNAL INFO 1



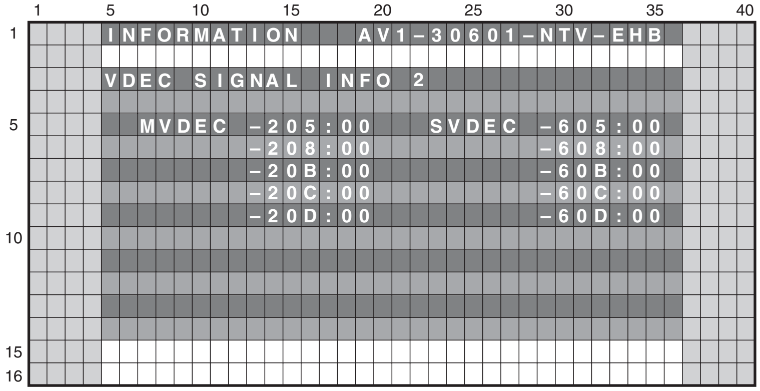
```
INFORMATION        AV1-30601-NTV-EHB

VDEC SIGNAL INFO 1

    MVDEC  -000:00     SVDEC  -400:00
           -001:00            -401:00
           -094:00            -494:00
           -095:00            -495:00
           -096:00            -496:00
           -098:00            ----:--
           -1B5:00            -5B5:00
           -1B6:00            -5B6:00
           -1B7:00            -5B7:00
```

Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	000h	400h	Line system distinction result
	001h	401h	VTR distinction result
	094h	494h	Slot number
	095h	495h	Color system distinction result
	096h	496h	ACC coefficient
	098h	---	3D YC flag
	1B5h	5B5h	MV detection 1
	1B6h	5B6h	MV detection 2
	1B7h	5B7h	MV detection 3

Note: The SVDEC data display in the Regular A, D model, but the value is not settled because the multi-screen display function is not used.

6.2.1.9 VDEC SIGNAL INFO 2



```
INFORMATION        AV1-30601-NTV-EHB

VDEC SIGNAL INFO 2

    MVDEC  -205:00     SVDEC  -605:00
           -208:00            -608:00
           -20B:00            -60B:00
           -20C:00            -60C:00
           -20D:00            -60D:00
```

Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	205h	605h	CC detection 1
	208h	608h	CC detection 2
	20Bh	60Bh	CC-CRI detection
	20Ch	60Ch	XDS content advisor 0
	20Dh	60Dh	XDS content advisor 1

Note: The SVDEC data display in the Regular A, D model, but the value is not settled because the multi-screen display function is not used.

6.2.2 PANEL FACTORY (+)

Operation Items

This is the menu screen for the adjustment of the panel. Data acquisition and value adjustment can be performed for the following items:

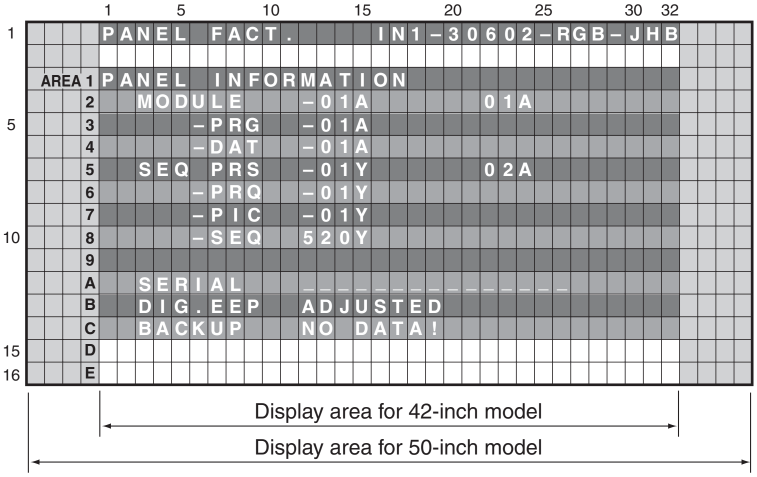
No.	Indication	Description of functions
6.2.2.1	PANEL INFORMATION	Data, such as the version of the microcomputer of the panel, product serial number, and statuses of memories for adjustment values for the main unit and for backup, are displayed.
6.2.2.2	PANEL WORKS	Operation data, such as accumulated pulse-meter count, accumulated hour-meter count, accumulated power-on count, and the temperature detected by the sensor, are displayed.
6.2.2.3	POWER DOWN	The power-down history is displayed, with the hour-meter values that indicate the hour values when power-downs occurred.
6.2.2.4	SHUT DOWN	The shutdown history is displayed, with the hour-meter values that indicate the hour values when shutdowns occurred.
6.2.2.5	PANEL-1 ADJ (+)	Settings of the driving pulse timing and driving voltage can be performed.
6.2.2.6	PANEL-2 ADJ (+)	White balance and ABL (power consumption) for the panel can be set.
6.2.2.7	PANEL FUNCTION (+)	The level for correction of panel degradation can be set.
6.2.2.8	ETC. (+)	Copying of backup data and clearance of various data can be performed.
6.2.2.9	RASTER MASK SETUP (+)	The mask indication (RASTER) can be set and indicated.
6.2.2.10	PATTERN MASK SETUP (+)	The mask indication (PATTERN) can be set and indicated.
6.2.2.11	COMBI MASK SETUP (+)	The mask indication (COMBI) can be set and indicated.

Details of indications in each layer

- In the following examples, GUI images for a 50-inch model are indicated. Although the display areas for the menu for 42-inch and 50-inch models are different, the items to be displayed are the same.

6.2.2.1 PANEL INFORMATION

- Data, such as the version of the microcomputer of the panel, product serial number, and statuses of memories for adjustment values for the main unit and for backup, are displayed. No other layers are nested below this layer, and there are no adjustment items.


1
5
10
15
20
25
30
32
1
5
10
15
16
AREA 1
2
3
4
5
6
7
8
9
A
B
C
D
E
Display area for 42-inch model
Display area for 50-inch model

```
PANEL FACT.    IN1-30602-RGB-JHB

PANEL INFORMATION
  MODULE     -01A      01A
     -PRG    -01A
     -DAT    -01A
  SEQ PRS    -01Y      02A
     -PRQ    -01Y
     -PIC    -01Y
     -SEQ    520Y

  SERIAL     _______________
  DIG.EEP    ADJUSTED
  BACKUP     NO DATA!
```

Key operation

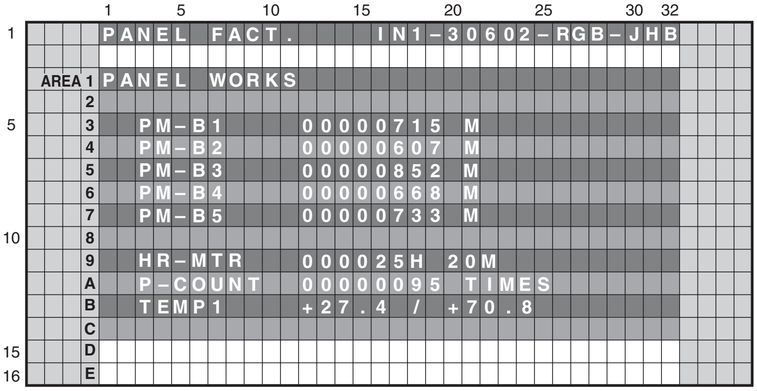
<DOWN> : Shifting to PANEL WORKS
<UP> : Shifting to COMBI MASK SETUP (+)
<L/R> : Updating displayed information

Display items:

MODULE : The version of data written in the Module microcomputer (IC3151) is indicated.
-PRG : The program version of the Module microcomputer is indicated.
-DAT : The data version of the Module microcomputer is indicated.
SEQ-PRG : The version of data written in the Sequence LSI (IC3401) is indicated.
-PRG : The program version of the Sequence LSI is indicated.
-PIC : The Picture-data version of the Sequence LSI is indicated.
-SEQ : The sequence-data version of the Sequence LSI is indicated.
SERIAL : The serial number of the module is indicated.
DIG.EEP : The adjusted status of the EEPROM that is mounted on the DIGITAL Assy is indicated.
BACKUP : The adjusted status of the EEPROM for backup that is mounted on the SENSOR Assy is indicated.

6.2.2.2 PANEL WORKS

- Data on operations, such as the accumulated pulse-meter counts, hour-meter count, power-on count, and temperature detected by the sensor, are sent back. No other layers are nested below this layer, and there are no adjustment items.



```
PANEL FACT.    IN1-30602-RGB-JHB

PANEL WORKS

  PM-B1      00000715 M
  PM-B2      00000607 M
  PM-B3      00000852 M
  PM-B4      00000668 M
  PM-B5      00000733 M

  HR-MTR     000025H 20M
  P-COUNT    00000095 TIMES
  TEMP1      +27.4 / +70.8
```

Key operation

<DOWN> : Shifting to POWER DOWN
<UP> : Shifting to PANEL INFORMATION
<L/R> : Updating displayed information

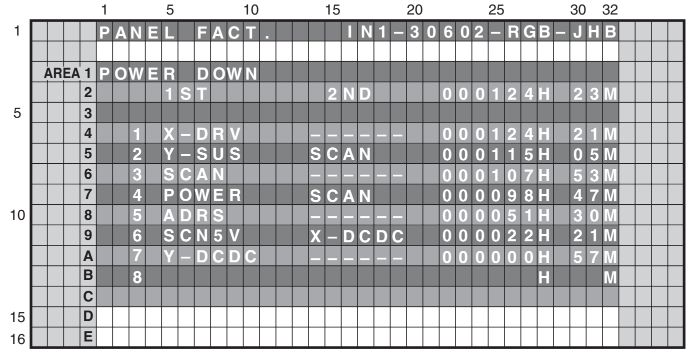
Temperature unit is " °C (Centigrade) ".

Contents of the Display item

- PM-B1 to B5: The accumulated pulse-meter counts for the 5 blocks on the screen are indicated. (the lowest-order digit represents millions of pulses.)
- HR-MTR: The hour-meter value (accumulated power-on hours) is indicated.
- P-COUNT: The accumulated power-on count is indicated.
- TEMP1: The current panel temperature and the historical maximum temperature recorded in memory are indicated. The range of temperature indication is from -50.0 to +99.9. (The temperature unit is " °C (Centigrade) ".)

6.2.2.3 POWER DOWN

- The power-down history is displayed. The last most 8 power-down histories are displayed with the hour-meter values that indicate the hours when power-downs occurred. No other layers are nested below this layer, and there are no adjustment items.



```
PANEL  FACT.      IN1-30602-RGB-JHB

POWER  DOWN
    1ST        2ND      000124H  23M

  1 X-DRV      ------   000124H  21M
  2 Y-SUS      SCAN     000115H  05M
  3 SCAN       ------   000107H  53M
  4 POWER      SCAN     000098H  47M
  5 ADRS       ------   000051H  30M
  6 SCN5V      X-DCDC   000022H  21M
  7 Y-DCDC     ------   000000H  57M
  8                           H    M
```

■ Key operation

<DOWN> : Shifting to SHUT DOWN
<UP> : Shifting to PANEL WORKS
<L/R> : Updating displayed information

<Causes of power-down and corresponding OSD indications>

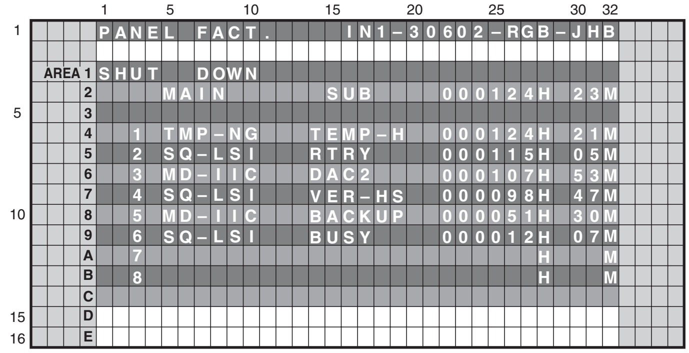
Cause of power-down	OSD Indication	Cause of power-down	OSD Indication
POWER SUPPLY Unit	P-PWR	ADDRESS Assy	ADRS
SCAN Assy	SCAN	X DRIVE Assy	X-DRV
5 V power for SCAN Assy	SCN5V	DC/DC converter for X drive	X-DCDC
Y DRIVE Assy	Y-DRV	X-drive SUS circuit	X-SUS
DC/DC converter for Y drive	Y-DCDC	Unknown	UNKNOW
Y-drive SUS circuit	Y-SUS		

* When power-down is confirmed, the factor is displayed as "1st", "2nd", according to the accuracy order.

* The power-down history is not recorded when the power-down occurred at the same place and same time.

6.2.2.4 SHUT DOWN

- The shutdown history is displayed. The last most 8 shutdown histories are displayed with the hour-meter values that indicate the hours when shutdowns occurred. No other layers are nested below this layer, and there are no adjustment items.



```
PANEL  FACT.      IN1-30602-RGB-JHB

SHUT   DOWN
    MAIN       SUB      000124H  23M

  1 TMP-NG     TEMP-H   000124H  21M
  2 SQ-LSI     RTRY     000115H  05M
  3 MD-IIC     DAC2     000107H  53M
  4 SQ-LSI     VER-HS   000098H  47M
  5 MD-IIC     BACKUP   000051H  30M
  6 SQ-LSI     BUSY     000012H  07M
  7                           H    M
  8                           H    M
```

■ Key operation

<DOWN> : Shifting to PANEL-1 ADJ (+)
<UP> : Shifting to POWER DOWN
<L/R> : Updating displayed information

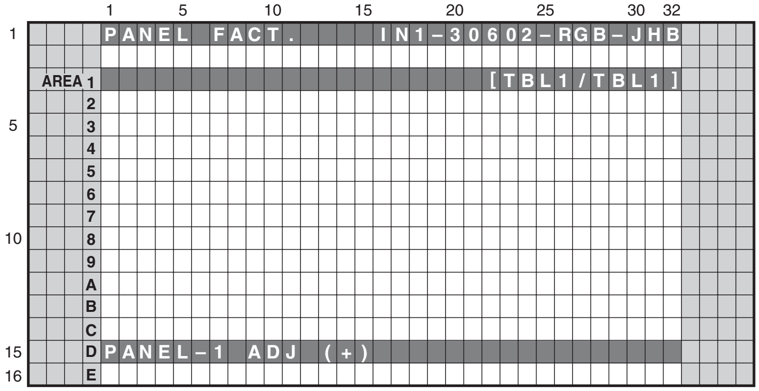
* When there is detail information when shutdown occurred, the possible defective part is displayed as Sub information.

<Cause of shut-down and corresponding OSD Indication >

Cause of shut-down (MAIN)		Cause of shut-down (SUB)	
Item	OSD Indication	Item	OSD Indication
Drive Processing IC	SQ_LSI	Communication Error	RTRY
		Drive Stop	SQNO
		Communication Busy	BUSY
		Version mismatching (H/S)	VER-HS
		Version mismatching (M/S)	VER-MS
MDU-IIC	MD-IIC	MAIN EEPROM Communication Error	EEPROM
		BACKUP EEPROM Communication Error	BACKUP
		DAC1 Communication Error	DAC1
		DAC2 Communication Error	DAC2
Abnormally in RST2 power supply	RST2	–	–
Panel temperature	TMP-NG	High temperature of the panel	TEMP-H
		Low temperature of the panel	TEMP-L

6.2.2.5 PANEL-1 ADJ (+)

- Timing and voltage for the driving pulse are set. At third line of the screen, the WB (White Balance) table and frequency table indicating operation status are displayed, and at fifteenth line of the screen, the item for the upper nested layer (PANEL-1 ADJ [+]) is displayed. Pressing the SET key shifts the screen to the next nested layer below for item selection.



PANEL FACT.   IN1–30602–RGB–JHB

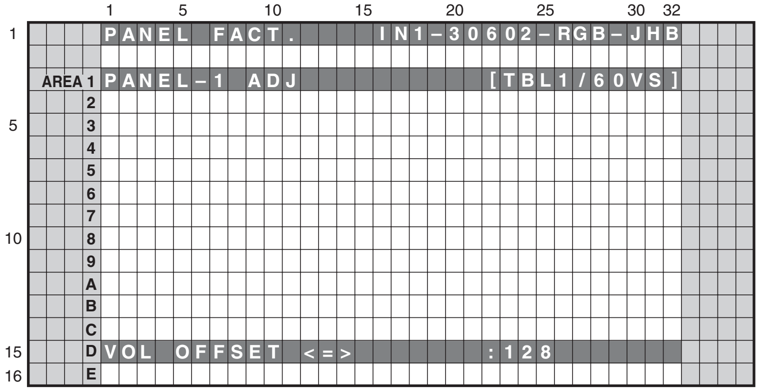
[TBL1/TBL1]

PANEL–1 ADJ (+)

■ Key operation

<DOWN>	: Shifting to PANEL-2 ADJ (+)
<UP>	: Shifting to POWER DOWN
<SET>	: Shifting to the next nested layer

- When the screen is shifted to the next nested layer below, the item of the layer above is indicated at third line of the screen, and the item of the layer below is indicated at fifteenth line.
- The configuration of the menu screen is the same for any adjustment item that has lower layers.
- To confirm that the change in the SUS FREQ. setting has resulted in diminishing of AM radio interference in this layer, after changing the setting, turn the unit off then back on.



PANEL FACT.   IN1–30602–RGB–JHB

PANEL–1 ADJ   [TBL1/60VS]

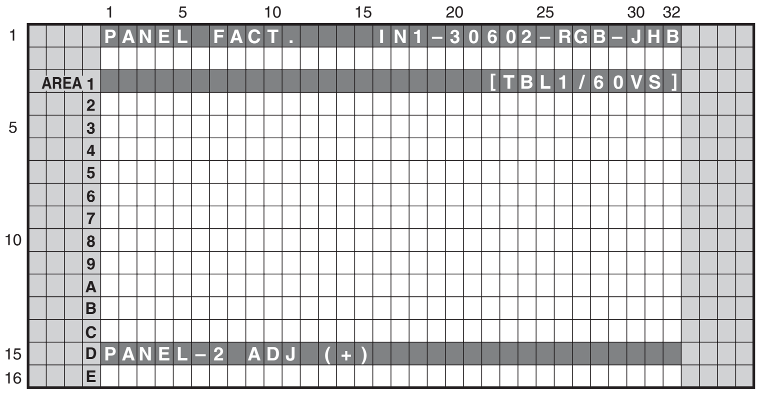
VOL OFFSET <=>   :128

■ Key operation

<DOWN>	: Shifting to the next item
<UP>	: Shifting to the previous item
<RIGHT>	: Adding by one to the adjustment/ setting value
<LEFT>	: Subtracting by one from the adjustment/setting value
<VOL+>	: Adding by 10 to the adjustment/ setting value
<VOL->	: Subtracting by 10 from the adjustment/setting value
<SET>	: Determining the adjustment/setting value and shifting to the upper layer

6.2.2.6 PANEL-2 ADJ (+)

- White balance can be adjusted by adjusting R, G, and B gain. Pressing the SET key shifts the screen to the next nested layer below for item selection.



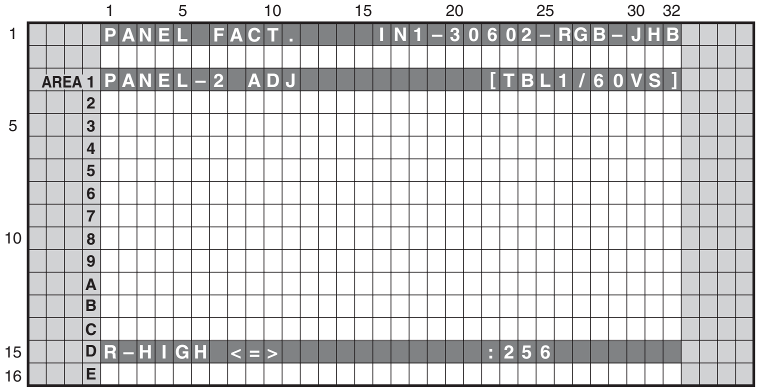
PANEL FACT. IN1-30602-RGB-JHB

[TBL1/60VS]

PANEL-2 ADJ (+)

■ Key operation

<DOWN> : Shifting to PANEL FUNCTION (+)
<UP> : Shifting to PANEL-1 ADJ (+)
<SET> : Shifting to the next nested layer



PANEL FACT. IN1-30602-RGB-JHB

PANEL-2 ADJ [TBL1/60VS]

R-HIGH <=> :256

■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

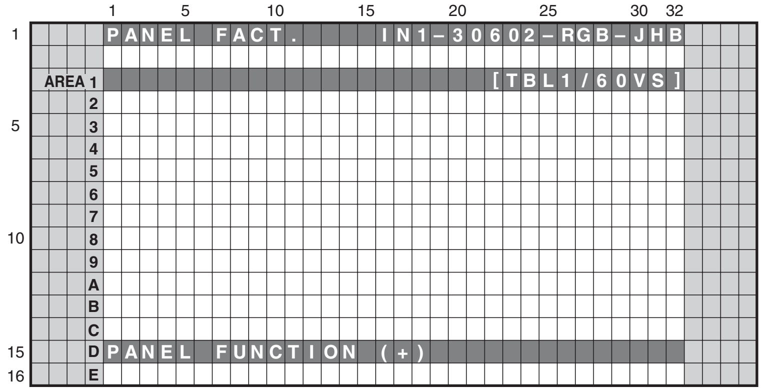
The ABL/WB adjustment values are grouped into up to four tables, depending on the drive sequences. The adjustment value for the actually driven table is displayed. The number of the adjustment table and the drive sequence currently selected are displayed on the right side of the third line as the On-Screen display.

Drive sequence and adjustment table

Sequence Name	Video50	Video60	Video72	Video75	PC60
Adjustment Value Table	TBL2	TBL1	TBL1	TBL3	TBL4

6.2.2.7 PANEL FUNCTION (+)

- A setting for panel degradation correction can be made. Pressing the SET key shifts the screen to the next nested layer below for item selection.


1
5
10
15
20
25
30
32
1
5
10
15
16
AREA
1
2
3
4
5
6
7
8
9
A
B
C
D
E

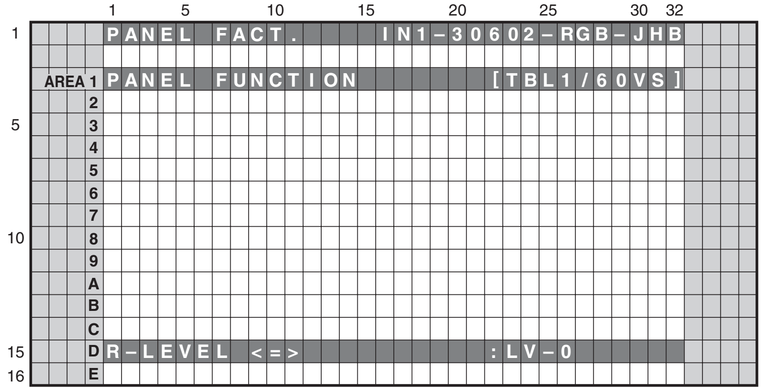
PANEL FACT. IN1-30602-RGB-JHB

[TBL1/60VS]

PANEL FUNCTION (+)

■ Key operation

<DOWN> : Shifting to ETC.(+)
<UP> : Shifting to PANEL-2 ADJ (+)
<SET> : Shifting to the next nested layer


1
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10
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20
25
30
32
1
5
10
15
16
AREA
1
2
3
4
5
6
7
8
9
A
B
C
D
E

PANEL FACT. IN1-30602-RGB-JHB

PANEL FUNCTION [TBL1/60VS]

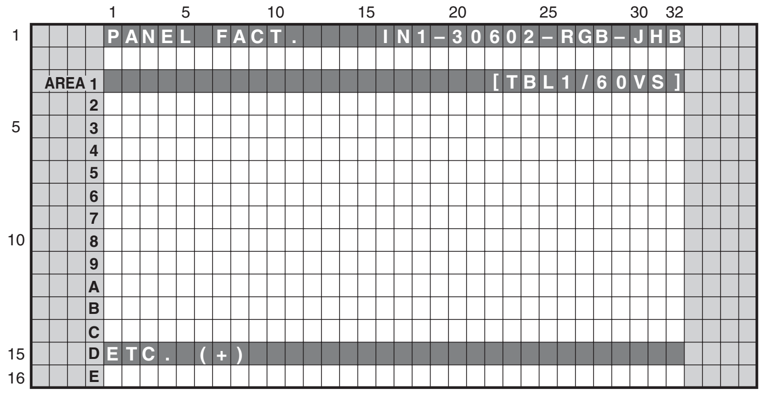
R-LEVEL <=> :LV-0

■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

6.2.2.8 ETC. (+)

- The setting about the backup of panel adjusting value and various data on panel operational information can be cleared. Pressing the SET key shifts the screen to the next nested layer below for item selection.


1
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20
25
30
32
AREA
2
3
4
5
6
7
8
9
A
B
C
D
E
16

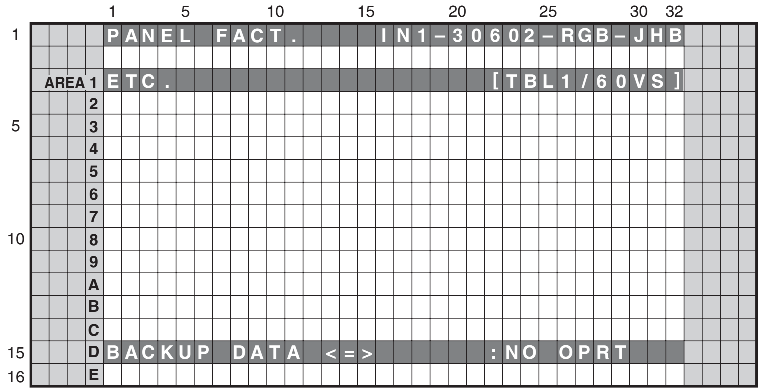
PANEL FACT. IN1-30602-RGB-JHB

AREA 1 [TBL1/60VS]

D ETC. (+)

■ Key operation

<DOWN> : Shifting to RASTER MASK SETUP (+)
<UP> : Shifting to PANEL FUNCTION (+)
<SET> : Shifting to the next nested layer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AREA
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5
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7
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9
A
B
C
D
E
16

PANEL FACT. IN1-30602-RGB-JHB

AREA 1 ETC. [TBL1/60VS]

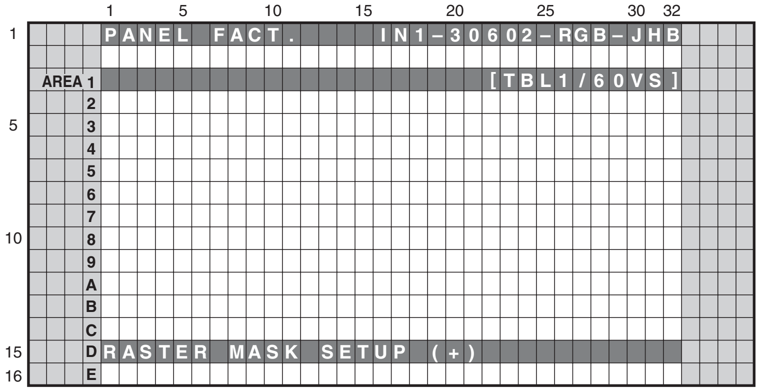
D BACKUP DATA <=> :NO OPRT

■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

6.2.2.9 RASTER MASK SETUP (+)

- This menu set the RASTER MASK and the drive sequence at RASTER MASK state. Pressing the SET key shifts the screen to the next nested layer below for item selection.



PANEL FACT. IN1-30602-RGB-JHB

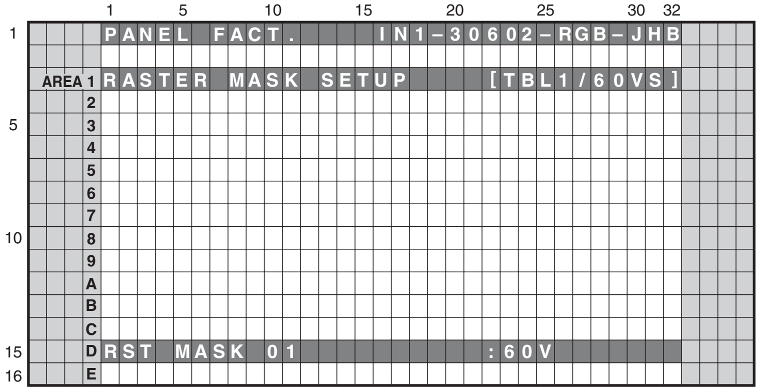
[TBL1/60VS]

RASTER MASK SETUP (+)

1 5 10 15 20 25 30 32
1
AREA 1
2
5 3
4
5
6
7
10 8
9
A
B
C
15 D
16 E

■ Key operation

<DOWN>	: Shifting to PATTERN MASK SETUP (+)
<UP>	: Shifting to ETC. (+)
<SET>	: Shifting to the next nested layer



PANEL FACT. IN1-30602-RGB-JHB

RASTER MASK SETUP [TBL1/60VS]

RST MASK 01 :60V

1 5 10 15 20 25 30 32
1
AREA 1
2
5 3
4
5
6
7
10 8
9
A
B
C
15 D
16 E

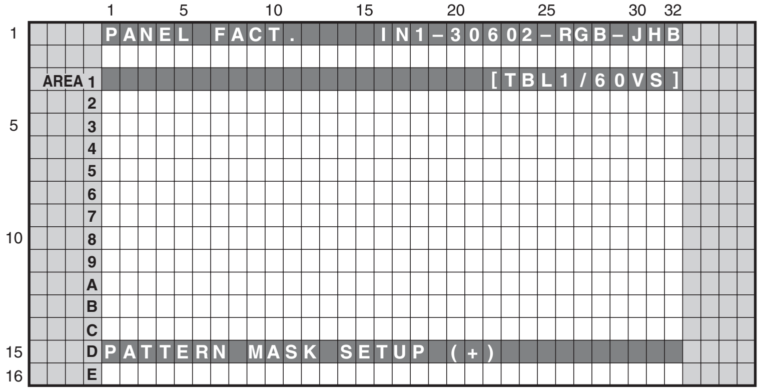
■ Key operation

<DOWN>	: Shifting to the next MASK
<UP>	: Shifting to the previous MASK
<RIGHT>	: Changing MASK sequence (+)
<LEFT>	: Changing MASK sequence (-)
<SET>	: Determining the adjustment/setting value and shifting to the upper layer

- The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V and 60P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.

6.2.2.10 PATTERN MASK SETUP (+)

- This menu set the PATTERN MASK and the drive sequence at PATTERN MASK state. Pressing the SET key shifts the screen to the next nested layer below for item selection.


1
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15
20
25
30
32
AREA
1
2
3
4
5
6
7
8
9
A
B
C
D
E
1
5
10
15
16

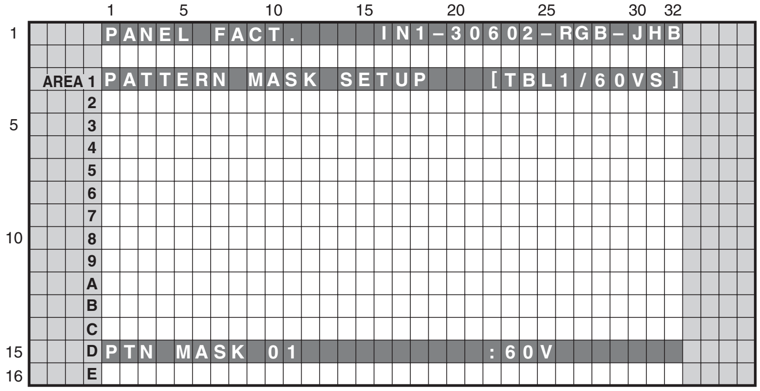
PANEL FACT. IN1-30602-RGB-JHB

[TBL1/60VS]

PATTERN MASK SETUP (+)

■ Key operation

<DOWN> : Shifting to COMBI MASK SETUP (+)
<UP> : Shifting to RASTER MASK SETUP (+)
<SET> : Shifting to the next nested layer


1
5
10
15
20
25
30
32
AREA
1
2
3
4
5
6
7
8
9
A
B
C
D
E
1
5
10
15
16

PANEL FACT. IN1-30602-RGB-JHB

PATTERN MASK SETUP [TBL1/60VS]

PTN MASK 01 :60V

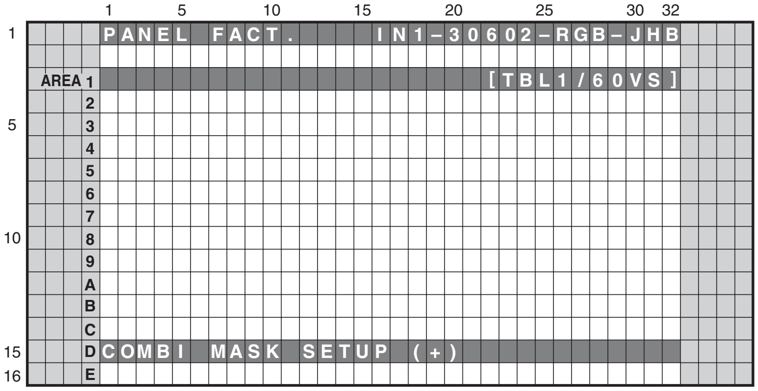
■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

- The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V and 60P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.

6.2.2.11 COMBI MASK SETUP (+)

- This menu set the COMBI MASK and the drive sequence at COMBI MASK state. Pressing the SET key shifts the screen to the next nested layer below for item selection.


1
5
10
15
20
25
30
32
1
5
10
15
16
AREA
1
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4
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6
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A
B
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D
E

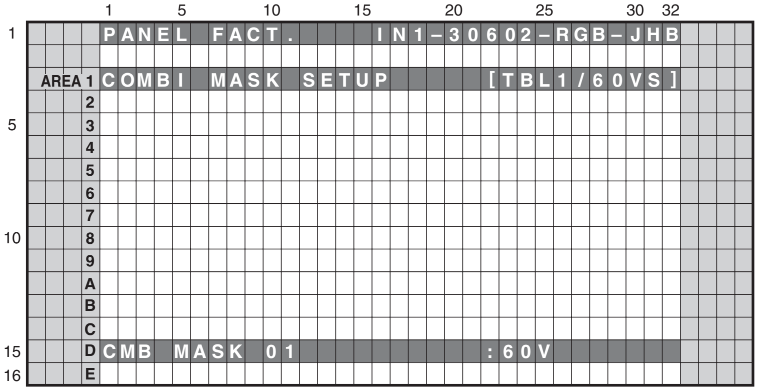
PANEL FACT. IN1-30602-RGB-JHB

[TBL1/60VS]

COMBI MASK SETUP (+)

■ Key operation

<DOWN> : Shifting to PANEL INFORMATION
<UP> : Shifting to PATTERN MASK SETUP (+)
<SET> : Shifting to the next nested layer


1
5
10
15
20
25
30
32
1
5
10
15
16
AREA
1
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A
B
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D
E

PANEL FACT. IN1-30602-RGB-JHB

COMBI MASK SETUP [TBL1/60VS]

CMB MASK 01 :60V

■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

- The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V and 60P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.

6.2.3 OPTION

Operation item

No.	Function	Content	RS-232C
6.2.3.1	EDID WRITE MODE ⇔	DISABLE ⇔ ENABLE	–––
6.2.3.2	CH PRESET ⇔	USER ⇔ FACTORY	–––
6.2.3.3	SYNC DET (+)	Exclusively used for technical analysis	–––

6.2.3.1 EDID WRITE MODE <=>

Exclusively used for production line.

6.2.3.2 CH PRESET <=>

Exclusively used for production line.

6.2.3.3 SYNC DET (+)

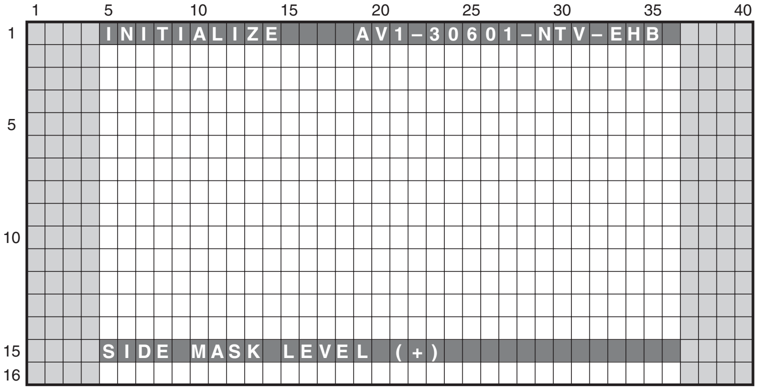
Exclusively used for technical analysis (details omitted).

6.2.4 INITIALIZE

Operation item

No.	Function	Content	RS-232C
6.2.4.1	SIDE MASK LEVEL (+)	Configure the color of the side mask.	SML
6.2.4.2	FINAL SETUP (+)	Initialize flash memorys on virgin product status	FST
6.2.4.3	Wide XGA AUTO <=>	Exclusively used for technical analsyis.	–––

6.2.4.1 SIDE MASK LEVEL (+)



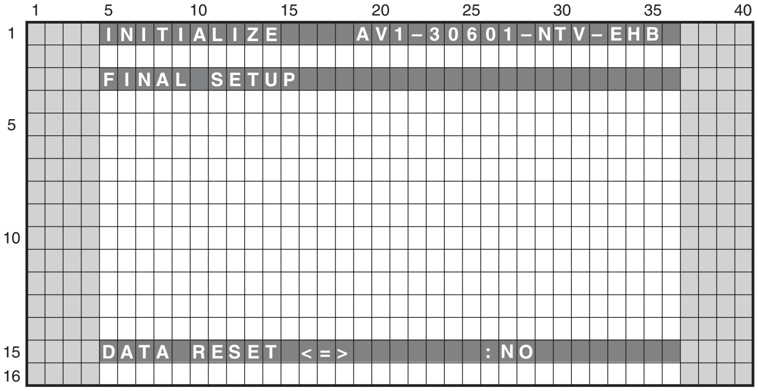
INITIALIZE AV1–30601–NTV–EHB

SIDE MASK LEVEL (+)

To configure sidemask level (To adjust the values, input signal is required).

Display	Content	RS-232C
SIDE MASK LEVEL <=>	Adjust Side Mask level (Adjustable range: 000 to 255)	SML

6.2.4.2 FINAL SETUP (+)



INITIALIZE AV1–30601–NTV–EHB

FINAL SETUP

DATA RESET <=> : NO

- To reset each memory values to factory default values. Factory command is "FST".
- When the configuration is set to <NO> and the [ENTER/SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <YES> and the [ENTER/SET] key is pressed for 5 seconds, the reset action executes.

Be sure to disconnect and connect the AC cable after FINAL SETUP.
When replacing the MAIN Assy, the FINAL SETUP is required.

6.2.4.3 Wide XGA AUTO <=>

Exclusively used for technical analsyis (details omitted).

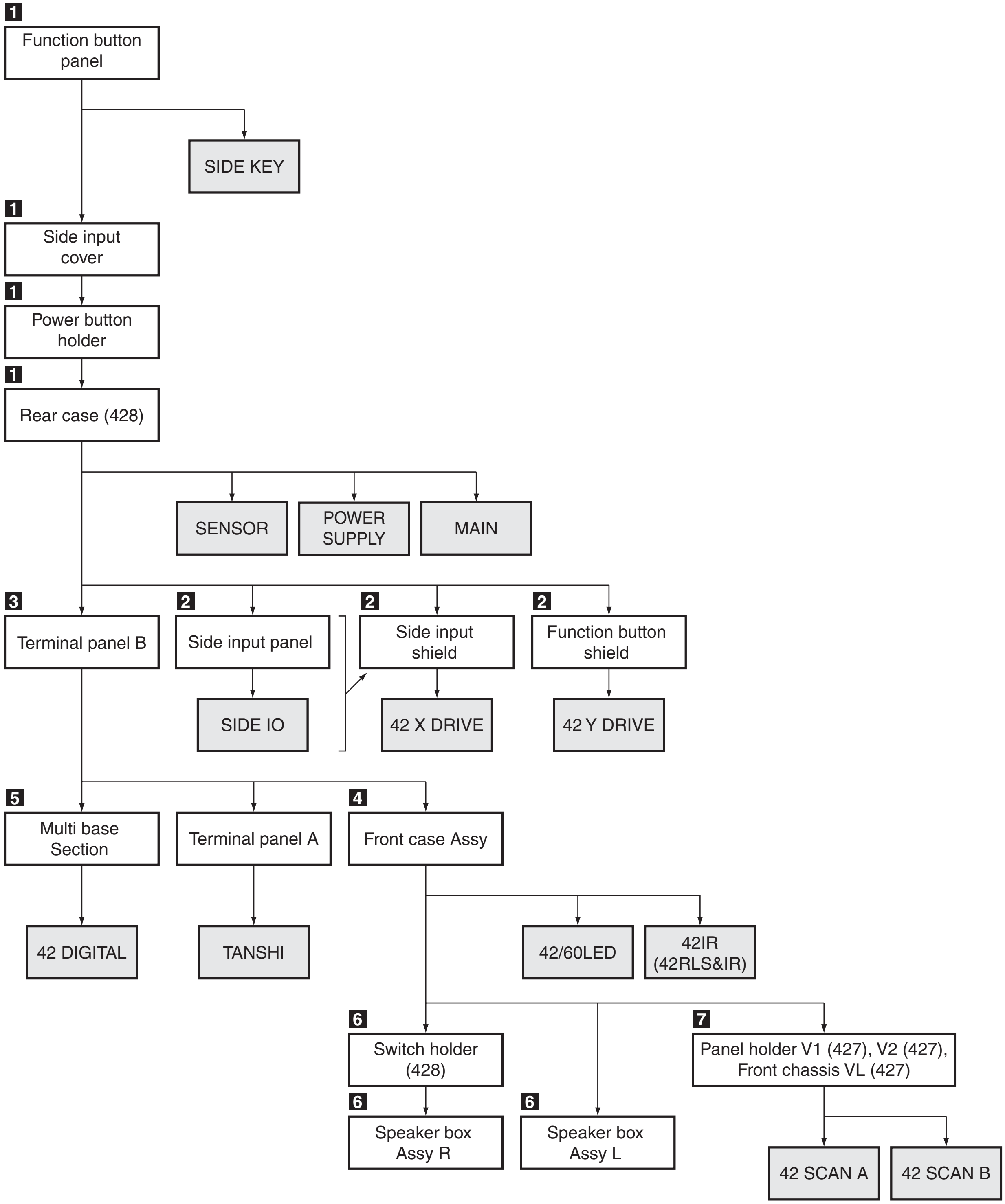
7. DISASSEMBLY

7.1 CHART OF REMOVAL ORDER FOR THE MAIN PARTS AND BOARDS

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Chart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:



1 Function button panel
SIDE KEY
1 Side input cover
1 Power button holder
1 Rear case (428)
SENSOR
POWER SUPPLY
MAIN
3 Terminal panel B
2 Side input panel
2 Side input shield
2 Function button shield
SIDE IO
42 X DRIVE
42 Y DRIVE
5 Multi base Section
Terminal panel A
4 Front case Assy
42 DIGITAL
TANSHI
42/60LED
42IR (42RLS&IR)
6 Switch holder (428)
7 Panel holder V1 (427), V2 (427), Front chassis VL (427)
6 Speaker box Assy R
6 Speaker box Assy L
42 SCAN A
42 SCAN B

7.2 DISASSEMBLY

Disassembly

1 Rear Case (428)

● Function button panel

① Remove the two screws.

② Remove the function button panel.

● Side input cover

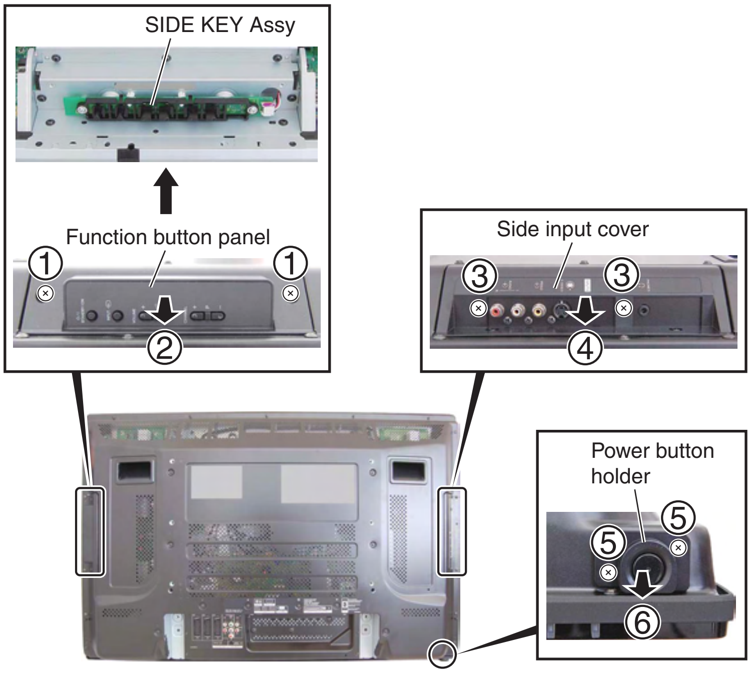
③ Remove the two screws.

④ Remove the side input cover.

● Power button holder

⑤ Remove the two screws.

⑥ Remove the power button holder.


SIDE KEY Assy
Function button panel
①
①
②
Side input cover
③
③
④
Power button holder
⑤
⑤
⑥

● Rear case (428)

① Remove the two protect sheets C.

② Remove the 23 screws. (AMZ30P060FTB)

③ Remove the nine screws. (TBZ40P080FTB)

④ Remove the four screws. (ABA1332)

⑤ Remove the four screws. (BBZ40P160FTB)

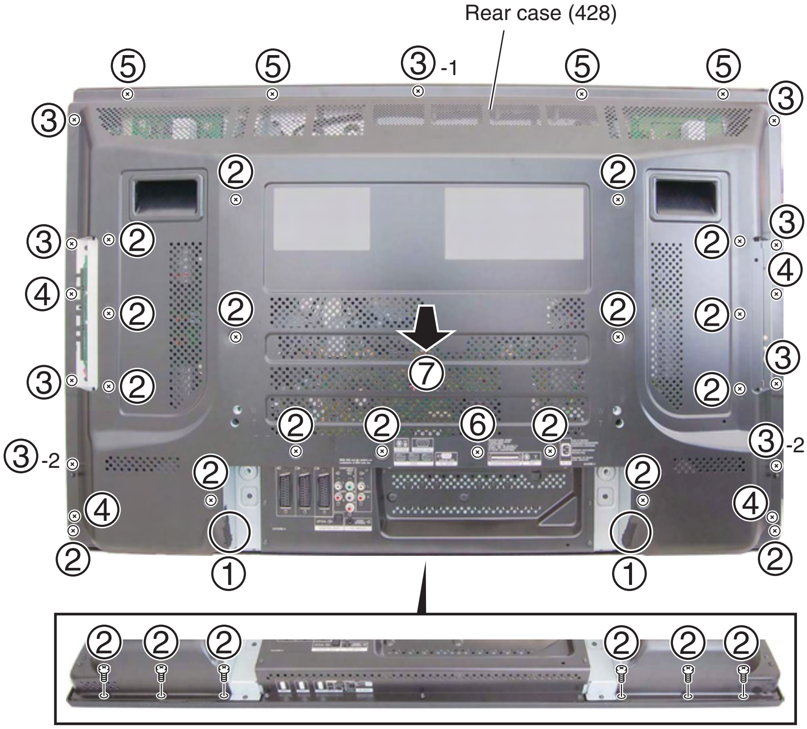
⑥ Remove the one screw. (ABA1341)

⑦ Remove the rear case (428).

■ Tightening sequence for the screws when assembling

When assembling the Rear Case (428), tighten the screws in the following sequence:

1. Tighten the screw (③-1).
2. Tighten the two screws (③-2).
3. Tighten other screws.


Rear case (428)
⑤
⑤
③-1
⑤
⑤
③
③
②
②
③
②
③
②
④
④
②
②
②
②
②
③
⑦
③
②
②
②
②
⑥
②
③-2
③-2
②
②
④
④
②
①
①
②
②
②
②
②
②
②

2 Access to PCB Assys

● SIDE IO Assy

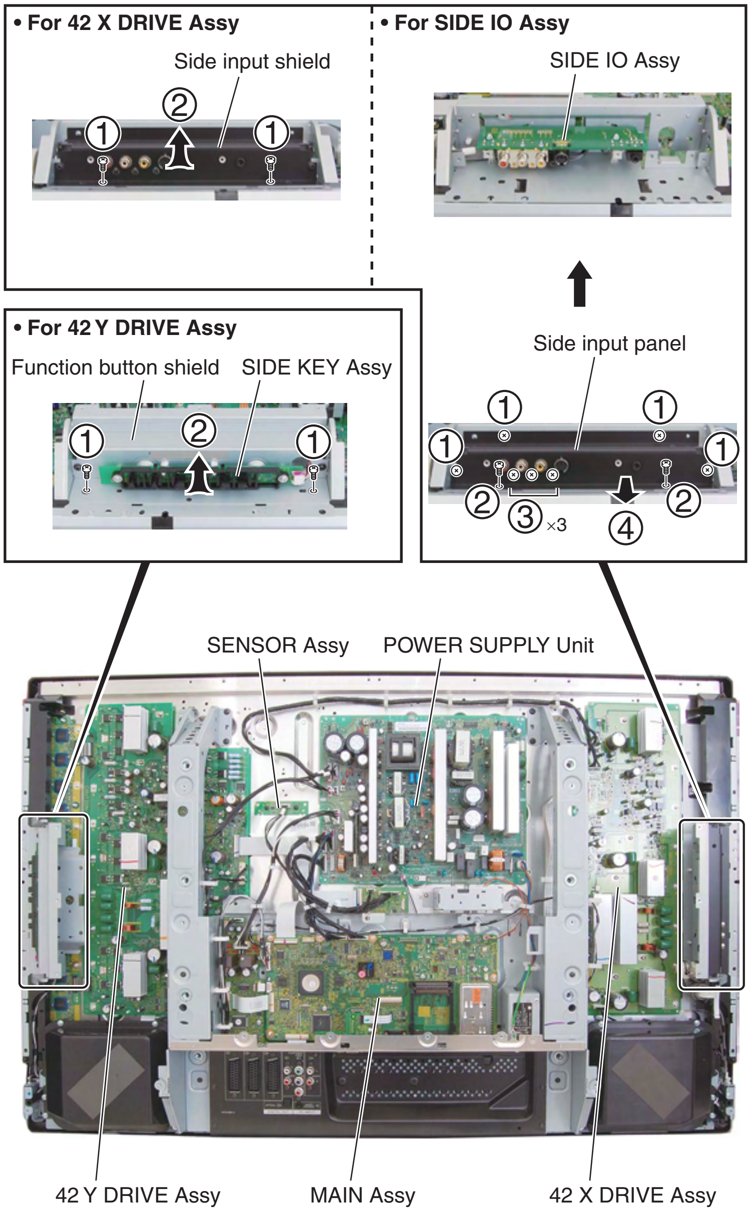
① Remove the four screws.
② Remove the two screws.
③ Remove the three screws.
④ Remove the side input panel.

● 42 X DRIVE Assy

① Remove the two screws.
② Remove the side input shield with PCB.
③ Diagnose the 42 X DRIVE Assy.

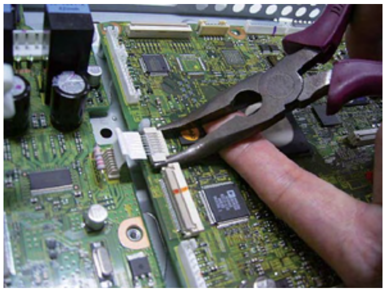
● 42 Y DRIVE Assy

① Remove the two screws.
② Remove the function button shield with PCB.
③ Diagnose the 42 Y DRIVE Assy.


• For 42 X DRIVE Assy
Side input shield
②
①
①
• For SIDE IO Assy
SIDE IO Assy
• For 42 Y DRIVE Assy
Function button shield
SIDE KEY Assy
①
②
①
Side input panel
①
①
①
①
②
③ ×3
④
②
SENSOR Assy
POWER SUPPLY Unit
42 Y DRIVE Assy
MAIN Assy
42 X DRIVE Assy

■ How to remove the bridge connector connecting between the MAIN and TANSHI Assys

(1) Grip the two short edges of the connector with longnose pliers.
(2) Insert a finger between the longnose pliers and the board to protect the board and the mounted parts on the board from accidental damage by the pliers then, using your finger as a fulcrum and the pliers as a lever, pry the connector upward to remove it.



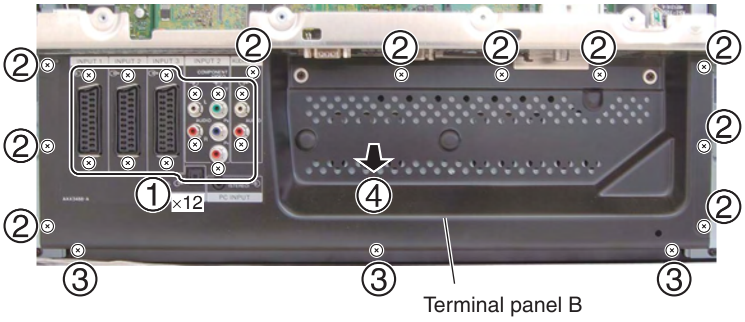
3 Terminal Panel B

① Remove the 12 screws.

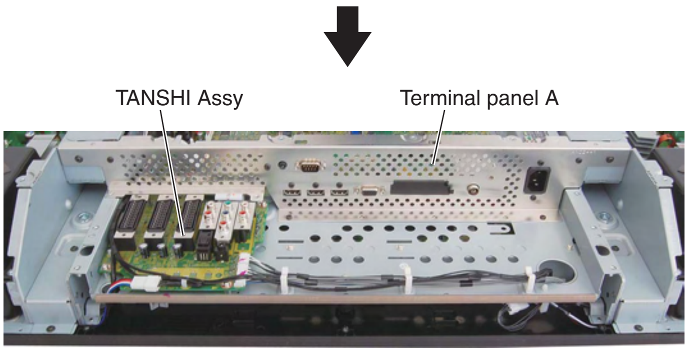
② Remove the 10 screws.

③ Remove the three screws.

④ Remove the terminal panel B.


②
②
②
②
②
②
②
②
②
②
①×12
④
③
③
③
Terminal panel B

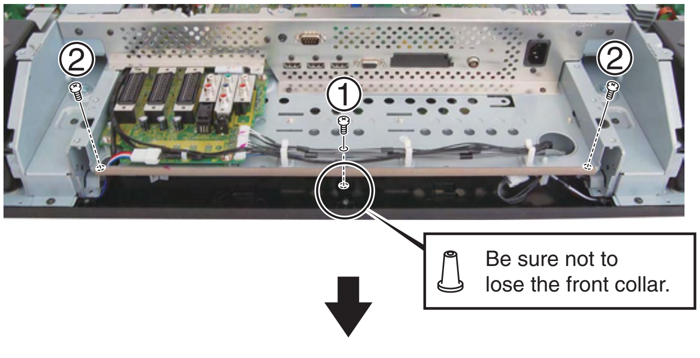
Note:
The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.


TANSHI Assy
Terminal panel A

4 Front Case Assy

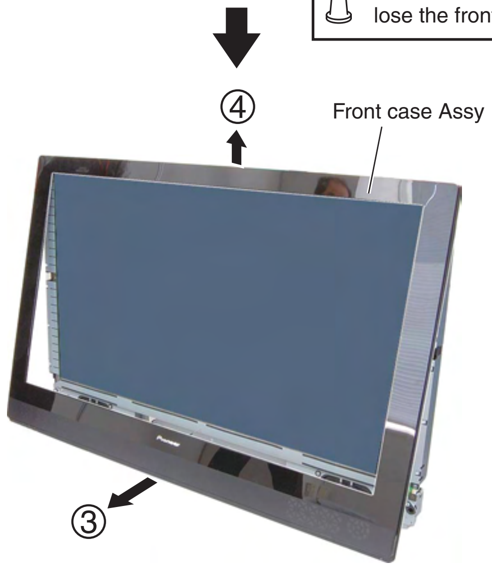
① Remove the one screw.

② Remove the two screws.


②
②
①
Be sure not to lose the front collar.

③ Pull the lower part of the Front case Assy toward you and out.

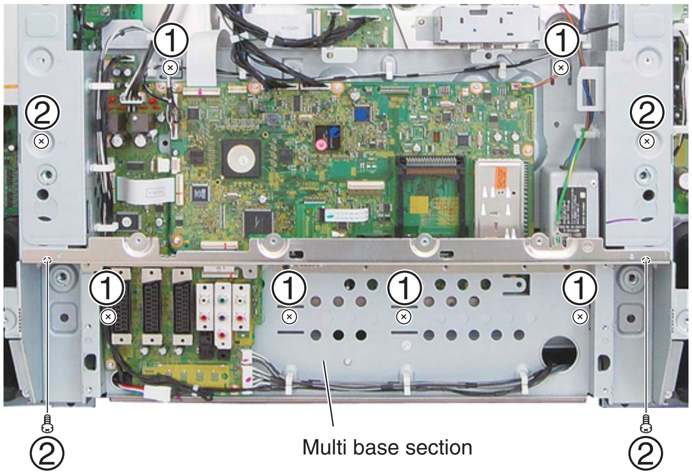
④ Remove the Front case Assy, by pulling it upward.


④
Front case Assy
③

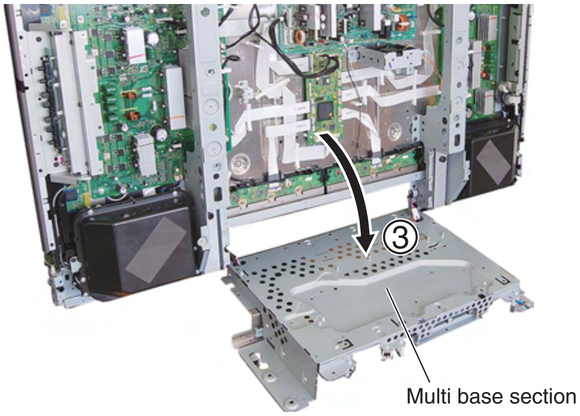
5 Access to 42 DIGITAL Assy

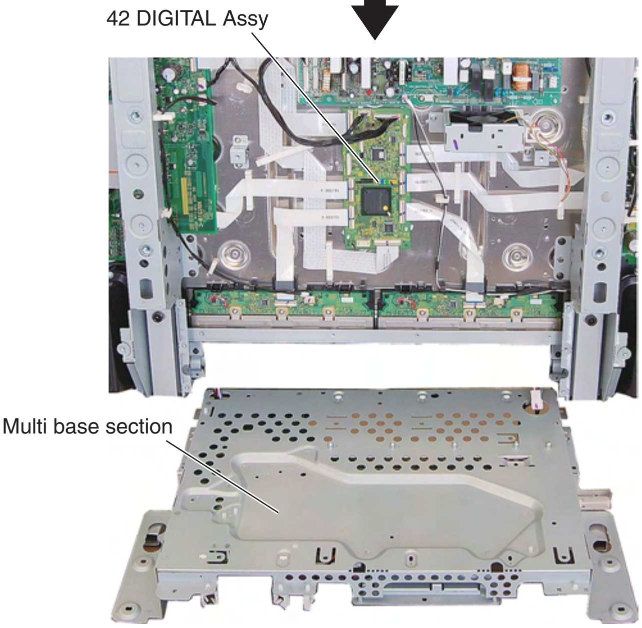
① Remove the six screws.

② Remove the four screws.


①
①
②
②
①
①
①
①
②
②
Multi base section

③ Lift the Multi base section to the direction of the arrow.


③
Multi base section


42 DIGITAL Assy
Multi base section

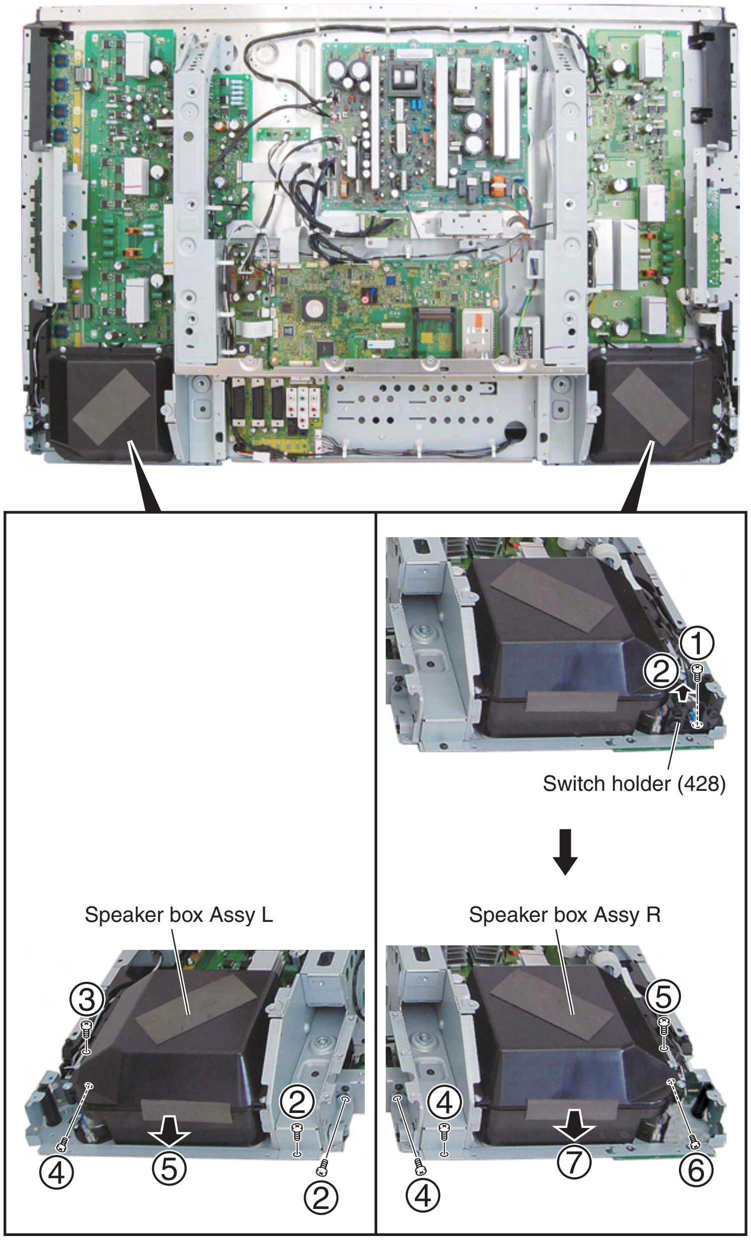
6 Speaker Box Assy L and R

● Speaker Box Assy L

① Disconnect cables, connectors, as required.
② Remove the two screws.
③ Remove the one screw.
④ Remove the one screw.
⑤ Remove the speaker box Assy L.

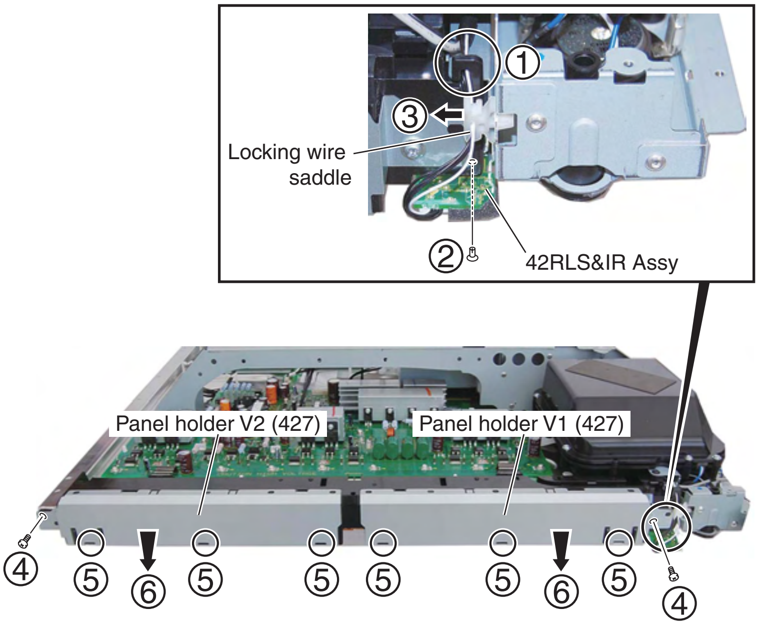
● Speaker Box Assy R

① Remove the one screw.
② Remove the switch holder (428).
③ Disconnect cables, connectors, as required.
④ Remove the two screws.
⑤ Remove the one screw.
⑥ Remove the one screw.
⑦ Remove the speaker box Assy R.

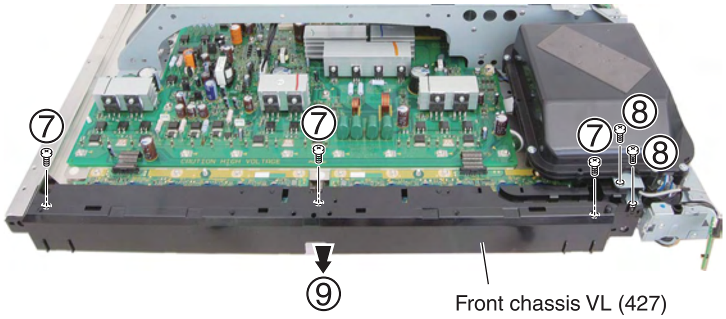

①
②
Switch holder (428)
Speaker box Assy L
③
②
④
⑤
②
Speaker box Assy R
⑤
④
⑦
⑥
④

7 Exchange of SCAN IC

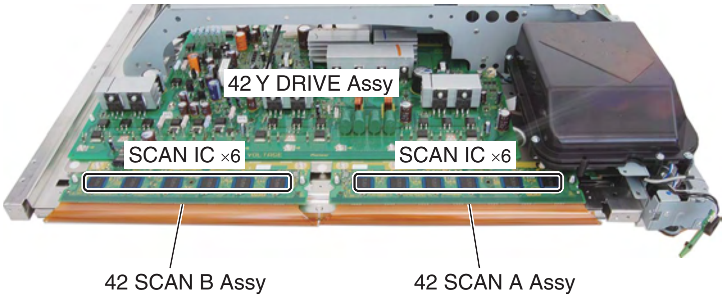
① Loosen the jumper wire.
② Remove the 42RLS&IR Assy by removing the one nyron rivet.
③ Remove the locking wire saddle.
④ Remove the two screws.
⑤ Unhook the six hooks.
⑥ Remove the panel holders V1 (427) and V2 (427).


①
③
Locking wire saddle
②
42RLS&IR Assy
Panel holder V2 (427)
Panel holder V1 (427)
④
⑤
⑥
⑤
⑤
⑤
⑤
⑥
⑤
④

⑦ Remove the three screws.
⑧ Remove the two screws.
⑨ Remove the front chassis VL (427).


⑦
⑦
⑦
⑧
⑧
⑨
Front chassis VL (427)

Exchange


42 Y DRIVE Assy
SCAN IC ×6
SCAN IC ×6
42 SCAN B Assy
42 SCAN A Assy

8. EACH SETTING AND ADJUSTMENT

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	➡	Refer to “8.3 HOW TO CLEAR HISTORY DATA”.
DIGITAL Assy	➡	Writing of backup data is required. Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”.
X DRIVE Assy	➡	No adjustment required
Y DRIVE Assy	➡	No adjustment required
Service Panel Assy	➡	Refer to “8.3 HOW TO CLEAR HISTORY DATA” and “8.4 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED”.
MAIN Assy (∗)	➡	No adjustment required
SENSOR Assy	➡	Writing of backup data is required. Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”.
Other assemblies	➡	No adjustment required

Note (∗): When replacing the MAIN Assy, be sure to perform the FINAL SETUP.

Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.
If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2461 (PDP-428XD and PDP-508XD) AWV2462 (PDP-4280XD and PDP-5080XD) AWV2463 (PDP-4280XA and PDP-5080XA)	MAIN Assy	IC4601	AV switch	R2S11006FT
		IC4701	RGB switch	R2S11001FT
		IC4703	EEPROM	BR24L01AFJ-W
		IC4801	MAIN VDEC	CM0048BF
		IC5001	A/D Converter	AD9985KSTZ-110
		IC5102	EEPROM	BR24L02FV-W
		IC5103	EEPROM	BR24L02FV-W
		IC5203	EEPROM	BR24L02FV-W
		IC8204	Flash ROM	AGC1050
		IC8301	Flash UCOM	AGC1037
		IC8602	Flash ROM	AGC1040 (for AWV2463)
		IC8602	Flash ROM	AGC1041 (for AWV2461, AWV2462)
AWV2452, AWV2447	X DRIVE Assy	• Parts of X D-D CON BLOCK		
AWV1262, AWV1260	Y DRIVE Assy	• Parts of Y VF D-D CON BLOCK • Parts of Y MAIN D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 2		

POWER SUPPLY Unit	The assembly must be replaced as a unit, and no part replacement is allowed.
MAIN Assy	No adjustment is required after replacement of parts other than those mentioned above.
DIGITAL Assy	No adjustment is required after replacement of parts other than those mentioned above.
X DRIVE Assy	No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED.
Y DRIVE Assy	No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED.
ADDRESS Assy	No adjustment required
SENSOR Assy	No adjustment is required after replacement of parts other than those mentioned above.
TANSHI Assy	No adjustment required

8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)

Outline

Adjustment data are stored in the EEPROM (IC3156/4K) on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup: IC3652) on the SENSOR Assy.
If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the SENSOR Assy to a new DIGITAL Assy.

Backed up data

- Drive voltage adjustment value
- Hour-meter count
- Pulse-meter count
- Panel white balance adjustment value
- Serial No.
- Drive waveform adjustment value
- P-ON counter value
- PD/SD histories

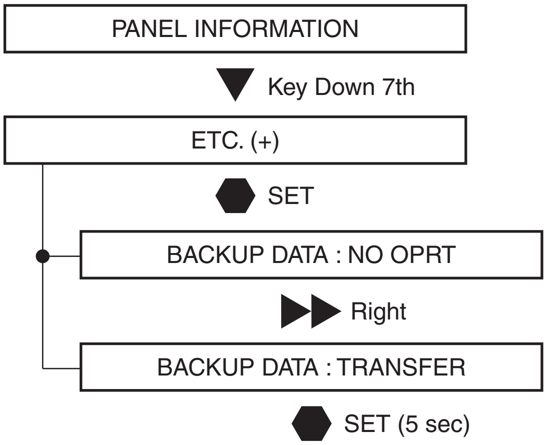
How to copy backup data

1. When the DIGITAL Assy is replaced with one for service (usual service)

Adjustment data can be restored by copying the data backed up in the SENSOR Assy to the EEPROM on a new DIGITAL Assy.
The EEPROM on the new DIGITAL Assy has no adjustment data, and the EEPROM for backup in the SENSOR Assy has adjustment data. After replacing the DIGITAL Assy, enter PANEL FACT. mode, display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP" and "ADJUSTED" is set for "BACKUP". Then, proceed in the following steps:

(1) Copying, using the Factory menu

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Copy the backup data, as shown in the figure below.



③ Turn the power off.

- After the DIGITAL Assy is replaced with one for service, be sure to check if "NO DATA!" is set for "DIG. EEP" on the PANEL INFORMATION page of the PANEL FACT. mode.
- If copying of the backup data fails in the above procedure, the red LED lights, and the blue LED flashes, as a warning that no backup data were copied.
- If both the DIGITAL and SENSOR Assys are to be replaced, first replace the SENSOR Assy, turn the unit on and back off again, then replace the DIGITAL Assy.

(2) Copying, using the RS-232C commands

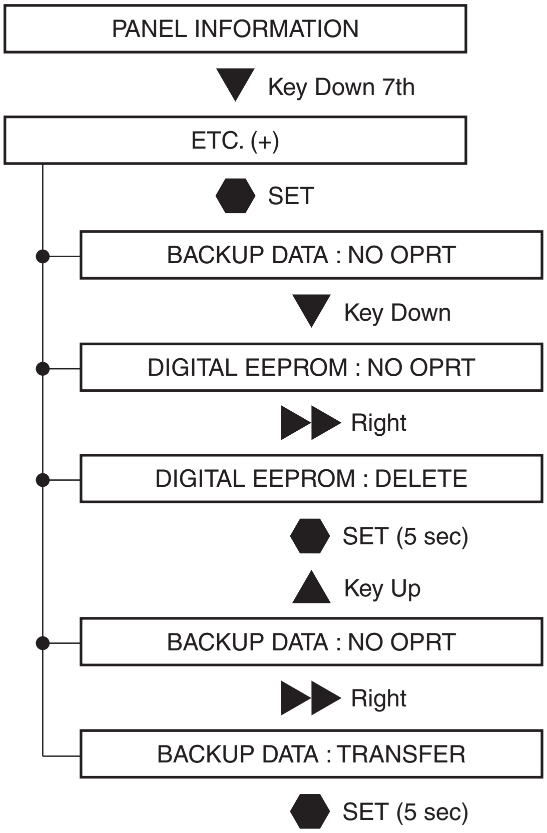
① Turn on the unit, using the remote control unit or by issuing the PON command. Then issue the FAY command.
② Issue the BCP command to transfer the data stored in the EEPROM for backup.
③ Turn the power off.

2. When a secondhand DIGITAL Assy that had been mounted in another product is to be reused

As adjustment data for another product are already stored in the secondhand DIGITAL Assy, first delete those data then copy the backup data stored in the EEPROM on the SENSOR Assy.

(1) Copying, using the Factory menu

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Copy the backup data, as shown in the figure below.


PANEL INFORMATION
Key Down 7th
ETC. (+)
SET
BACKUP DATA : NO OPRT
Key Down
DIGITAL EEPROM : NO OPRT
Right
DIGITAL EEPROM : DELETE
SET (5 sec)
Key Up
BACKUP DATA : NO OPRT
Right
BACKUP DATA : TRANSFER
SET (5 sec)

③ Turn the power off.

Note:
If the secondhand DIGITAL Assy is mounted in the product then the unit is turned on then back off again, the data in the EEPROM on the DIGITAL Assy are copied over the EEPROM in the SENSOR Assy. Thus the backup data can never be restored. During the first power-on after the DIGITAL Assy is replaced, be sure to enter Factory mode to copy the backup data. Or, before removing the secondhand DIGITAL Assy from the original product, delete the adjustment data on it, using the Factory mode (DIGITAL EEPROM: DELETE), mount it to the product to be repaired, then copy the data from the backup EEPROM.

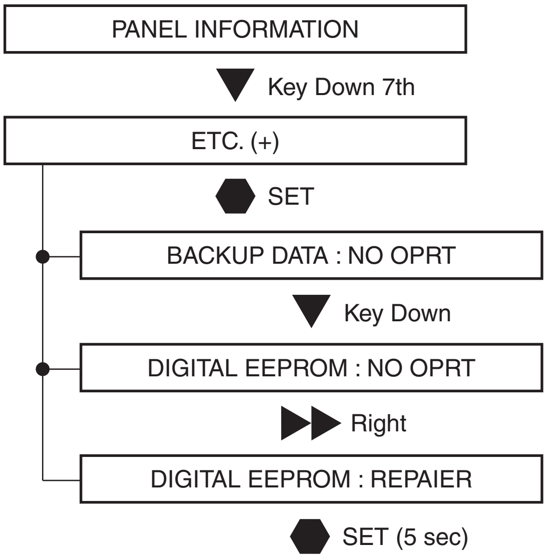
(2) Copying, using the RS-232C commands

① Turn on the unit, using the remote control unit or by issuing the PON command. Then issue the FAY command.
② Issue the UAJ command to delete data stored in the EEPROM on the DIGITAL Assy.
③ Issue the BCP command to transfer the data stored in the EEPROM for backup.
④ Turn the power off.

3. In a case where normal backup data are not stored in the backup EEPROM because the EEPROM on the DIGITAL Assy is defective, etc., and where manually adjusted values are to be applied to the product

Note: In this section, it is assumed that settings for various items have been completed, using Factory menu or RS-232C commands.

(1) Method using the Factory menu
① Set various setting/adjustment values.
② Proceed in the following steps.


PANEL INFORMATION
Key Down 7th
ETC. (+)
SET
BACKUP DATA : NO OPRT
Key Down
DIGITAL EEPROM : NO OPRT
Right
DIGITAL EEPROM : REPAIER
SET (5 sec)

③ Turn the power off.

Note:
When a DIGITAL Assy with an EEPROM in which adjustment data are stored is mounted, this step is not required after manual adjustment. ("DIGITAL EEPROM: REPAIR" is not indicated.)

(2) Method using the RS-232C commands
Issue the FAJ command.

8.3 HOW TO CLEAR HISTORY DATA

Clearance of various logs after the Assys are replaced

Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up. Some of those data must be cleared after the Assys are replaced for service.

(1) Clearance of logs, using the RS-232C commands

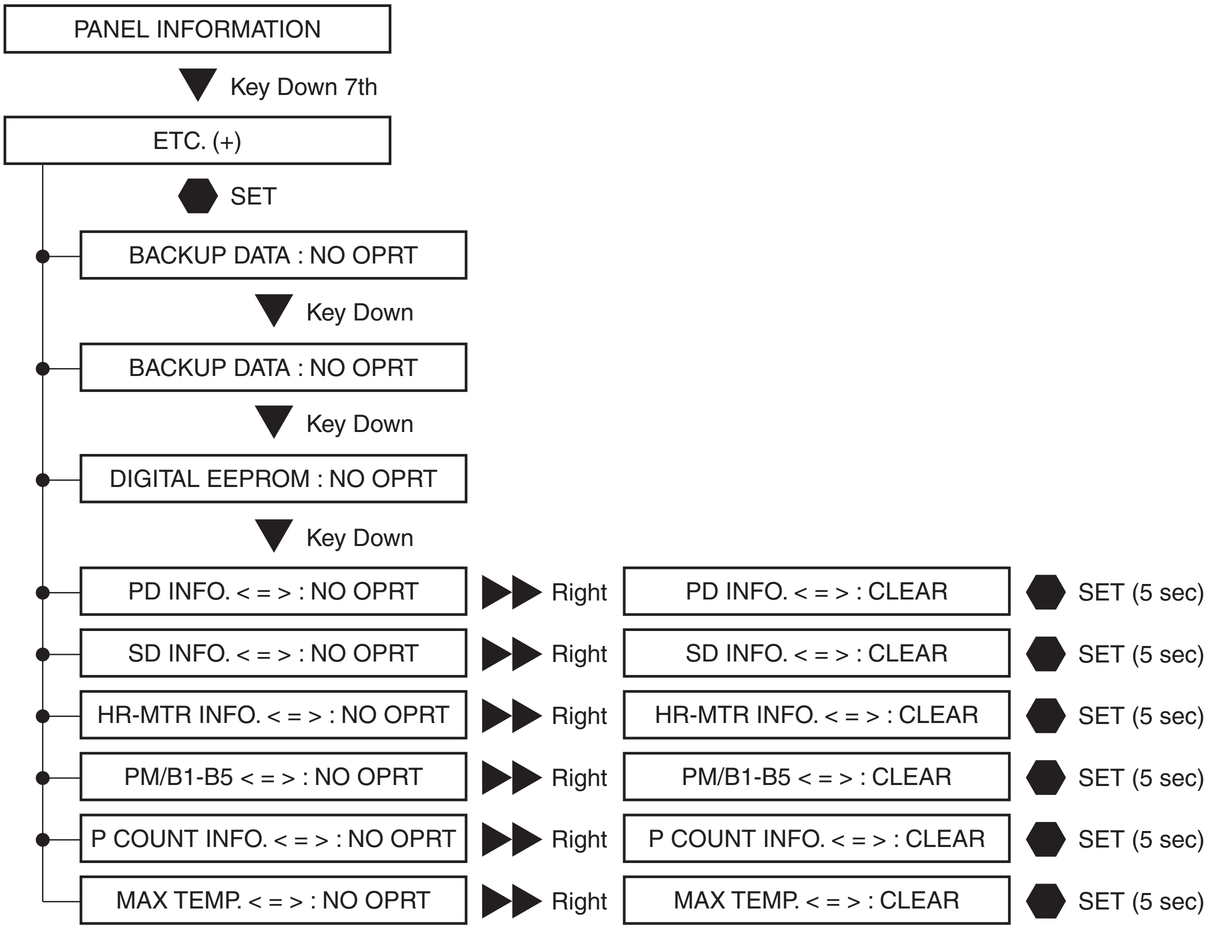
Item	Content	When the Panel is replaced	When the POWER SUPPLY Unit is replaced	When the Other parts is replaced	RS-232C Commands
Hour-meter	Accumulated power-on time	Must be cleared	No need to be cleared	No need to be cleared	CHM
Pulse-meter	Accumulated number of pulses emitted	Must be cleared (mandatory)	No need to be cleared	No need to be cleared	CPM
Shutdown history	Cause of an SD and hour-meter count	Must be cleared	No need to be cleared	No need to be cleared	CSD
Power-down history	Cause of an PD and hour-meter count	Must be cleared	No need to be cleared	No need to be cleared	CPD
Power-on counter	Relay-on count	No need to be cleared	Must be cleared (mandatory)	No need to be cleared	CPC
MAX TEMP	Historical max. temperature	Must be cleared	Must be cleared	Must be cleared	CMT

Notes:
- As the pulse-meter count is used for each correction function, it must be cleared when an Assy relevant to correction functions is replaced.
- When clearing logs, using the RS-232C commands, first enter Factory mode (by issuing FAY or PFY), then issue the corresponding command.

(2) Clearance of logs, using the Factory menu

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.

② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Delete various logs, as shown in the figure below.


PANEL INFORMATION
Key Down 7th
ETC. (+)
SET
BACKUP DATA : NO OPRT
Key Down
BACKUP DATA : NO OPRT
Key Down
DIGITAL EEPROM : NO OPRT
Key Down
PD INFO. < = > : NO OPRT
Right
PD INFO. < = > : CLEAR
SET (5 sec)
SD INFO. < = > : NO OPRT
Right
SD INFO. < = > : CLEAR
SET (5 sec)
HR-MTR INFO. < = > : NO OPRT
Right
HR-MTR INFO. < = > : CLEAR
SET (5 sec)
PM/B1-B5 < = > : NO OPRT
Right
PM/B1-B5 < = > : CLEAR
SET (5 sec)
P COUNT INFO. < = > : NO OPRT
Right
P COUNT INFO. < = > : CLEAR
SET (5 sec)
MAX TEMP. < = > : NO OPRT
Right
MAX TEMP. < = > : CLEAR
SET (5 sec)

③ Turn the power off.

8.4 ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED

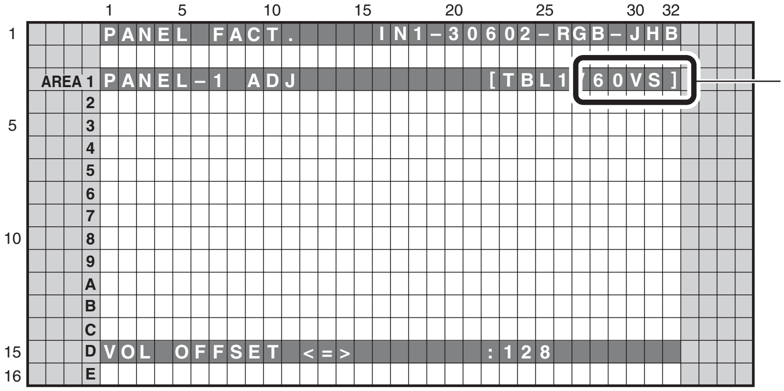
After the panel is replaced with one for service, voltage margin adjustment is required.

[Preparation]

Basically, voltage margin adjustment is performed using the Panel Factory menu.
After the panel is replaced and the unit is turned on, clear the pulse meter first.
For details on how to clear the pulse meter, see "8.3 HOW TO CLEAR HISTORY DATA".

∗1: As various corrections are made referring to the pulse-meter count to calculate how long the panel has been used, if adjustment of the panel for service is performed without clearing the pulse-meter count, proper adjustments will not be performed.

∗2: The drive sequence for 60-Hz video is used for adjustment. When adjustment is made using the Panel Factory menu, the current drive sequence is displayed on the screen, as shown in the figure below. Make sure that 60VS is always indicated during adjustment.



```
PANEL FACT.        IN1-30602-RGB-JHB

PANEL-1 ADJ             [TBL1/60VS]

VOL OFFSET <=>          :128
```

Drive sequence indication

Example of the On-Screen display during Panel Factory mode

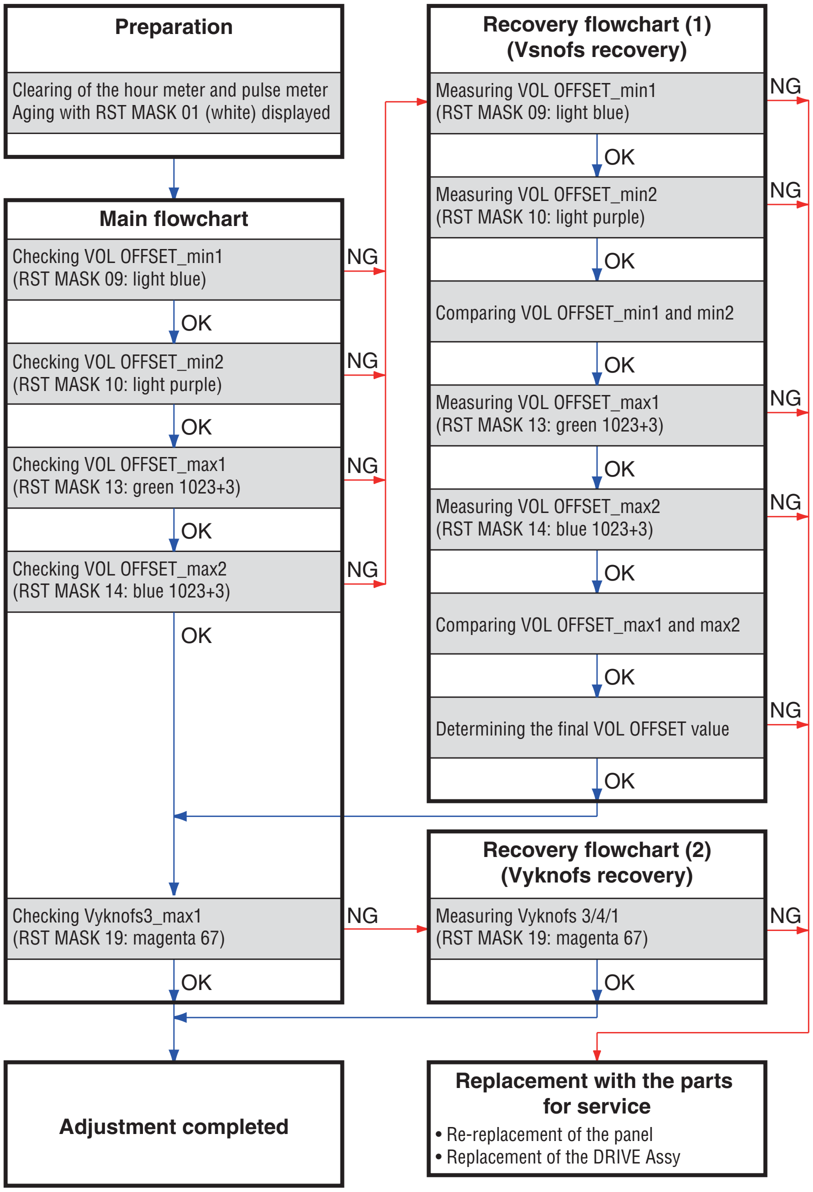
[Supplement]

In the "PANEL-1ADJ" layer, the Panel White Balance value is reset to default, Panel Gamma is set to Straight, and Noise is set to OFF.
In this case, "- - - - /∗∗∗∗" (∗∗∗∗ represents the current drive sequence) is displayed on the third line of the On-Screen display during Panel Factory mode.

If adjustment is performed using RS-232C commands, the following commands must be transmitted for preparation:
[PAV S00]: To set panel drive mode to Factory
[VFQ S03]: To set Drive Sequence to Video 60 Hz
[WBI S01]: To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
[PGR S00]: To set the gamma R value to that for Factory mode
[PGG S00]: To set the gamma G value to that for Factory mode
[PGB S00]: To set the gamma B value to that for Factory mode
[DIZ S03]:Dither ON,L dither ON, noise OFF

∗: If the unit is shut down during the above adjustment flow, resend the above commands from the beginning.

Overview

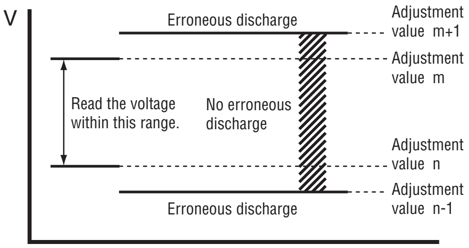

Preparation
Clearing of the hour meter and pulse meter
Aging with RST MASK 01 (white) displayed
Main flowchart
Checking VOL OFFSET_min1
(RST MASK 09: light blue)
OK
NG
Checking VOL OFFSET_min2
(RST MASK 10: light purple)
OK
NG
Checking VOL OFFSET_max1
(RST MASK 13: green 1023+3)
OK
NG
Checking VOL OFFSET_max2
(RST MASK 14: blue 1023+3)
OK
NG
Checking Vyknofs3_max1
(RST MASK 19: magenta 67)
OK
NG
Recovery flowchart (1)
(Vsnofs recovery)
Measuring VOL OFFSET_min1
(RST MASK 09: light blue)
NG
OK
Measuring VOL OFFSET_min2
(RST MASK 10: light purple)
NG
OK
Comparing VOL OFFSET_min1 and min2
OK
Measuring VOL OFFSET_max1
(RST MASK 13: green 1023+3)
NG
OK
Measuring VOL OFFSET_max2
(RST MASK 14: blue 1023+3)
NG
OK
Comparing VOL OFFSET_max1 and max2
OK
Determining the final VOL OFFSET value
NG
OK
Recovery flowchart (2)
(Vyknofs recovery)
Measuring Vyknofs 3/4/1
(RST MASK 19: magenta 67)
NG
OK
Adjustment completed
Replacement with the parts for service
• Re-replacement of the panel
• Replacement of the DRIVE Assy

Note on voltage calculation

When calculating the setting voltage, round off to get rid of the fractional part.

Range of margin measuring

Read the voltage within the hysteresis (stricter value).


V
Erroneous discharge
Adjustment value m+1
Adjustment value m
Read the voltage within this range.
No erroneous discharge
Adjustment value n
Adjustment value n-1
Erroneous discharge

Definition of limits for the voltage margins (abnormal lit/dead cells)

Abnormal lit cells:

- Five or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

Abnormal dead cells

- Fifteen or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

∗: Abnormal cells visually recognizable at a distance of 1 meter from the panel must be counted.

∗: Cells displayed abnormally for less than one second are not counted as abnormal cells.

Definition of tones for the measuring signals

XGA signal (1024*768)/Video 60-Hz sequence/Dither: ON, L dither: ON, noise: OFF

White	RST MASK 01 (R 1023 /G 1023 /B 1023)
Light blue	RST MASK 09 (R 648 /G 1023 /B 1023)
Light purple	RST MASK 10 (R 1023 /G 648 /B 1023)
Green 1023+3	RST MASK 13 (R 137 /G 1023 /B 137)
Blue 1023+3	RST MASK 14 (R 137 /G 648 /B 1023)
Magenta 67	RST MASK 19 (R 67 /G 0 /B 67)

Preparation before adjustment

[Replacement with the panel for service is completed.]

Procedures for resetting corrections for change over time

Turn the unit on. / [PON]

Enter Factory mode. / [FAY]

Set PM/B1-B5 to CLEAR (to clear the pulse meter). / [CPM]

Set HR-MTR to CLEAR (to clear the hour meter). / [CHM]

Turn the unit off. / [POF]

Procedures for stabilizing the panel before adjustment

Turn the unit on. / [PON]

Enter Factory mode. / [FAY]

Enter the initial values for the panel for service.

VOL SUS (106 fixed) / [VSU 106]
VOL OFFSET (Vsnofs adjustment voltage) reduction / [VOF ∗∗∗]
VOL RST P (Vyprst adjustment voltage) reduction / [VPR ∗∗∗]
VOL XPOFS1 (128 fixed: not used) / [VX1 128]
VOL XPOFS2 (027 fixed) / [VX2 027]
VOL YNOFS3 (Vyknof3 adjustment voltage) reduction / [VY3 ∗∗∗]
VOL YNOFS1 (Vyknof3 adjustment voltage) reduction+64 / [VY1 ∗∗∗]
VOL YNOFS4 (Vyknof3 adjustment voltage) reduction+75 / [VY4 ∗∗∗]

Note:
On the XGA model, the circuits are not mounted in VX1.

Display RST MASK 01 (white). / [MKSS51]

Select Video 60-Hz sequence. / [VFQS03]

∗ To store the [VFQS03] command in memory, transmit it after displaying the mask.

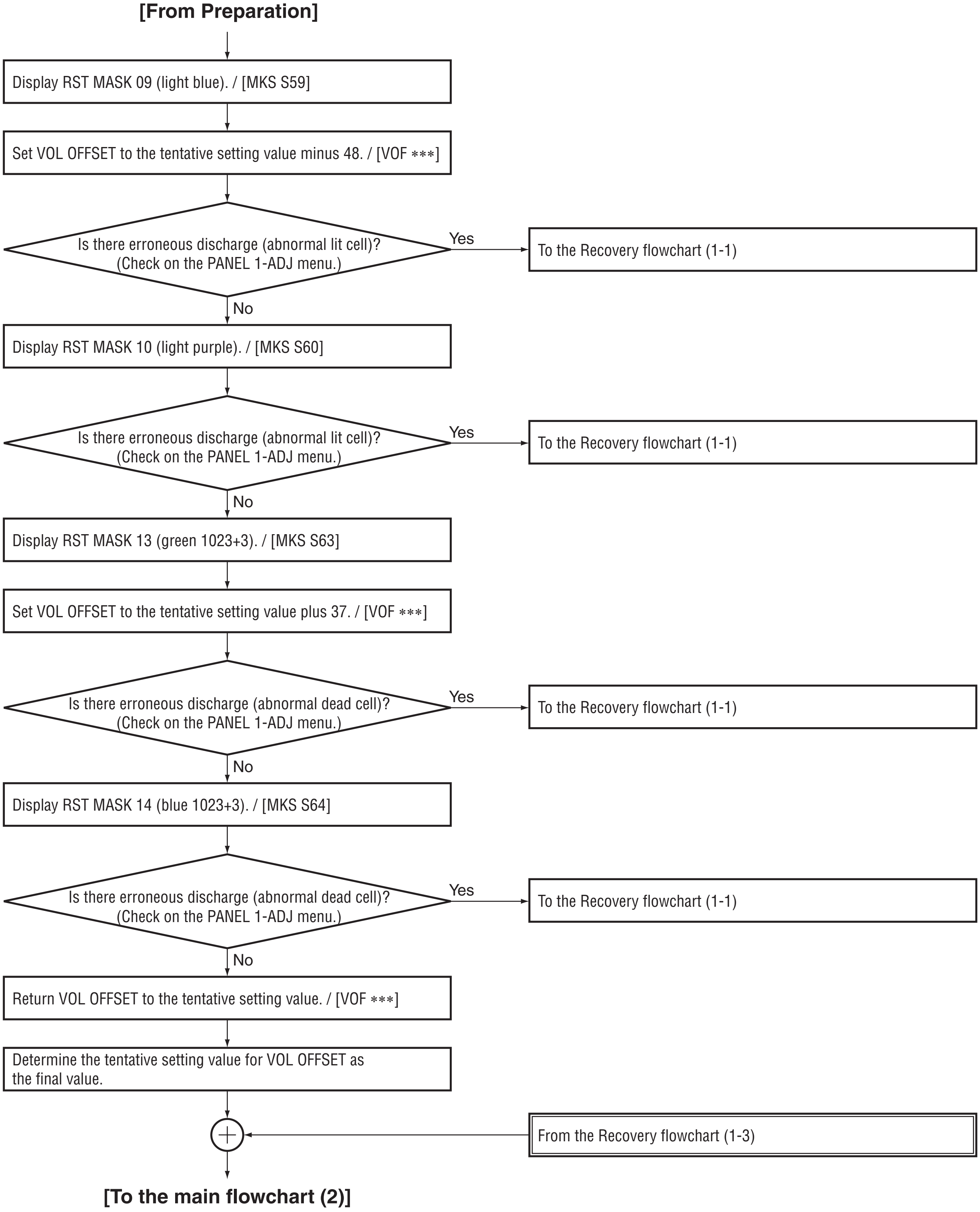
Perform aging for 5 minutes.

[To the main flowchart (1)]

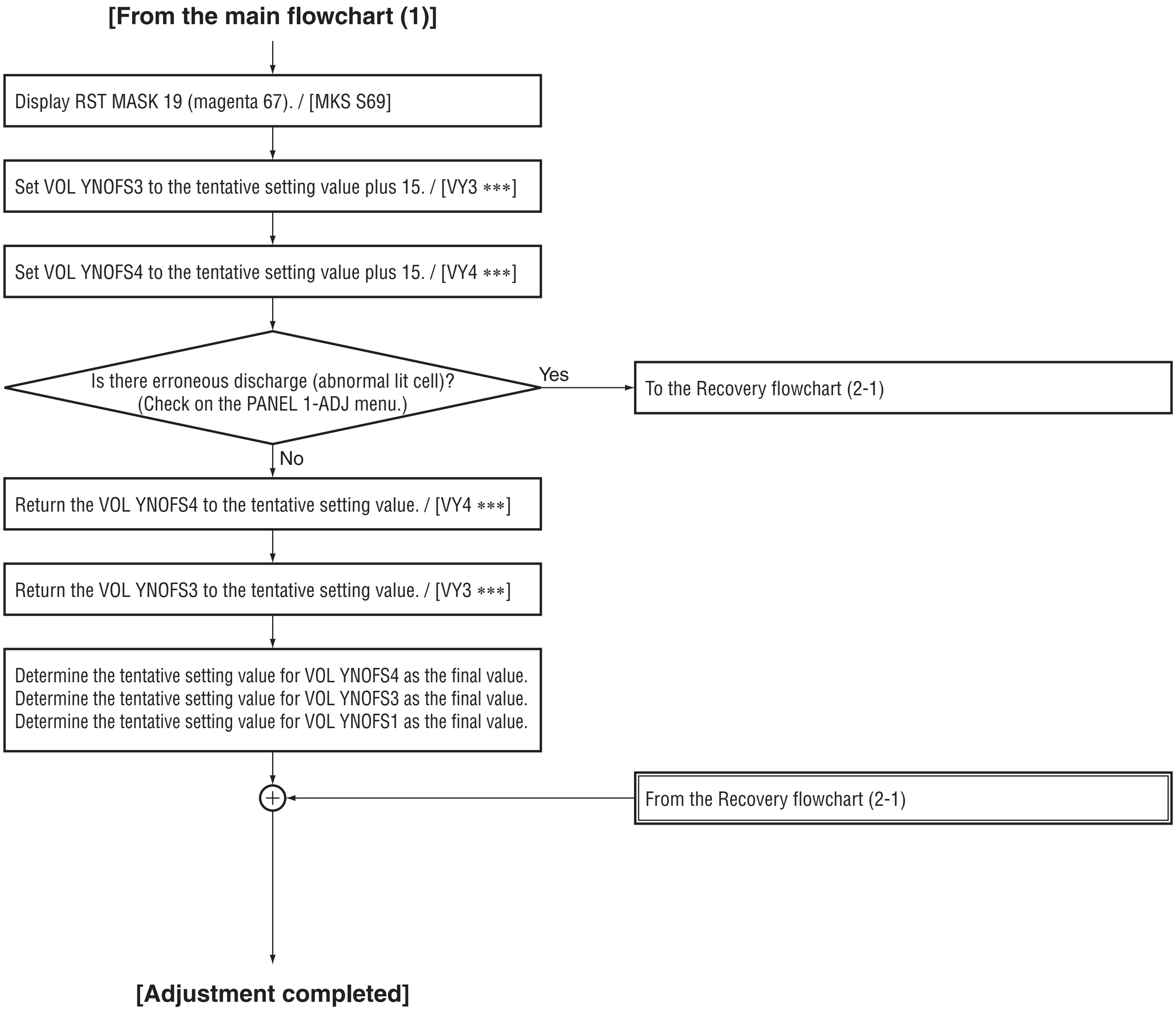
Note: If you perform the adjustment by RS-232C commands, the following commands must be added before going to the main flowchart (1):

[PAV S00]: To set panel drive mode to Factory
[WBI S01]: To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
[PGR S00]: To set the gamma R value to that for Factory mode
[PGG S00]: To set the gamma G value to that for Factory mode
[PGB S00]: To set the gamma B value to that for Factory mode
[DIZ S03]:Dither ON,L dither ON, noise OFF

Main flowchart (1)...Checking VOL OFFSET


[From Preparation]
Display RST MASK 09 (light blue). / [MKS S59]
Set VOL OFFSET to the tentative setting value minus 48. / [VOF ∗∗∗]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Display RST MASK 10 (light purple). / [MKS S60]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Display RST MASK 13 (green 1023+3). / [MKS S63]
Set VOL OFFSET to the tentative setting value plus 37. / [VOF ∗∗∗]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Display RST MASK 14 (blue 1023+3). / [MKS S64]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Return VOL OFFSET to the tentative setting value. / [VOF ∗∗∗]
Determine the tentative setting value for VOL OFFSET as the final value.
From the Recovery flowchart (1-3)
[To the main flowchart (2)]

Main flowchart (2)...Checking VOL YNOFS3

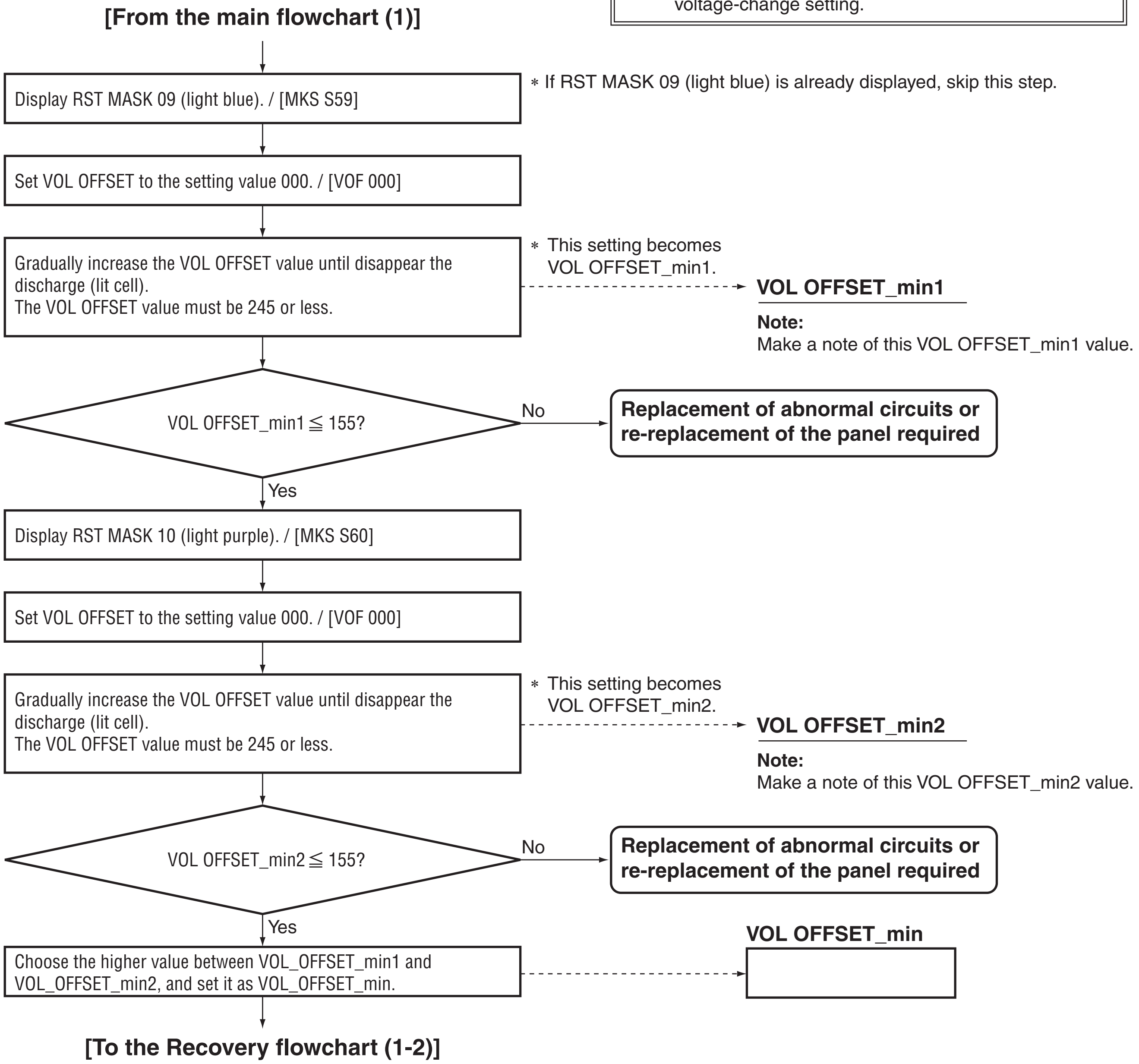

[From the main flowchart (1)]
Display RST MASK 19 (magenta 67). / [MKS S69]
Set VOL YNOFS3 to the tentative setting value plus 15. / [VY3 ***]
Set VOL YNOFS4 to the tentative setting value plus 15. / [VY4 ***]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (2-1)
No
Return the VOL YNOFS4 to the tentative setting value. / [VY4 ***]
Return the VOL YNOFS3 to the tentative setting value. / [VY3 ***]
Determine the tentative setting value for VOL YNOFS4 as the final value.
Determine the tentative setting value for VOL YNOFS3 as the final value.
Determine the tentative setting value for VOL YNOFS1 as the final value.
From the Recovery flowchart (2-1)
[Adjustment completed]

Note: Make sure that the values for VOL SUS(*1), VOL OFFSET, VOL RST P(*1), VOL XPOFS1,2(*1) and VOL YNOFS1, 3, 4 are the final setting values.

*1: The tentative setting value becomes the final value.

Recovery flowchart (1-1)...Changing the Vol Offset setting voltage

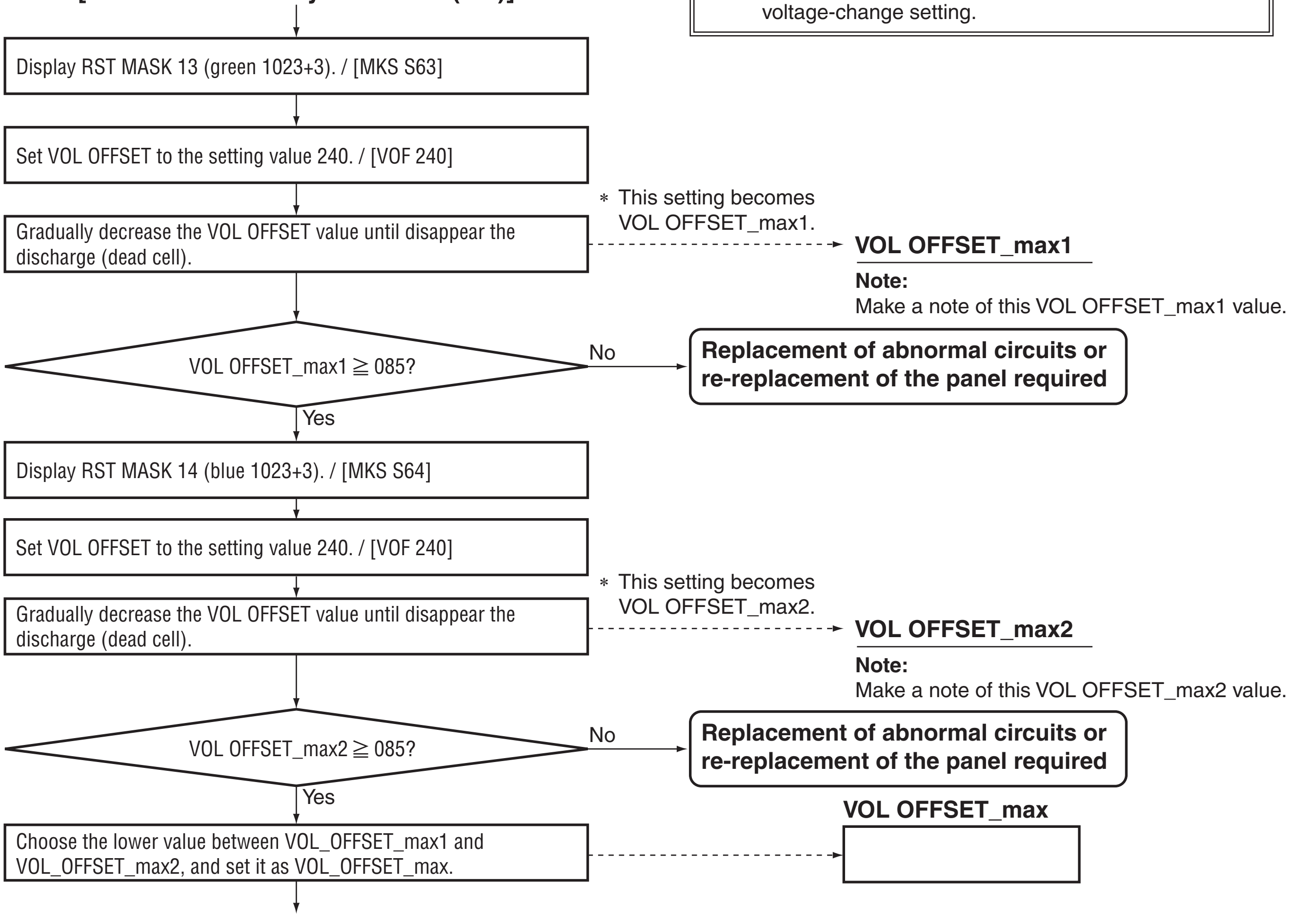
Note: Disregard the discharge that may appear during voltage-change setting.


[From the main flowchart (1)]
Display RST MASK 09 (light blue). / [MKS S59]
* If RST MASK 09 (light blue) is already displayed, skip this step.
Set VOL OFFSET to the setting value 000. / [VOF 000]
Gradually increase the VOL OFFSET value until disappear the discharge (lit cell). The VOL OFFSET value must be 245 or less.
* This setting becomes VOL OFFSET_min1.
VOL OFFSET_min1
Note: Make a note of this VOL OFFSET_min1 value.
VOL OFFSET_min1 ≦ 155?
No
Replacement of abnormal circuits or re-replacement of the panel required
Yes
Display RST MASK 10 (light purple). / [MKS S60]
Set VOL OFFSET to the setting value 000. / [VOF 000]
Gradually increase the VOL OFFSET value until disappear the discharge (lit cell). The VOL OFFSET value must be 245 or less.
* This setting becomes VOL OFFSET_min2.
VOL OFFSET_min2
Note: Make a note of this VOL OFFSET_min2 value.
VOL OFFSET_min2 ≦ 155?
No
Replacement of abnormal circuits or re-replacement of the panel required
Yes
Choose the higher value between VOL_OFFSET_min1 and VOL_OFFSET_min2, and set it as VOL_OFFSET_min.
VOL OFFSET_min
[To the Recovery flowchart (1-2)]

Recovery flowchart (1-2)

[From the Recovery flowchart (1-1)]

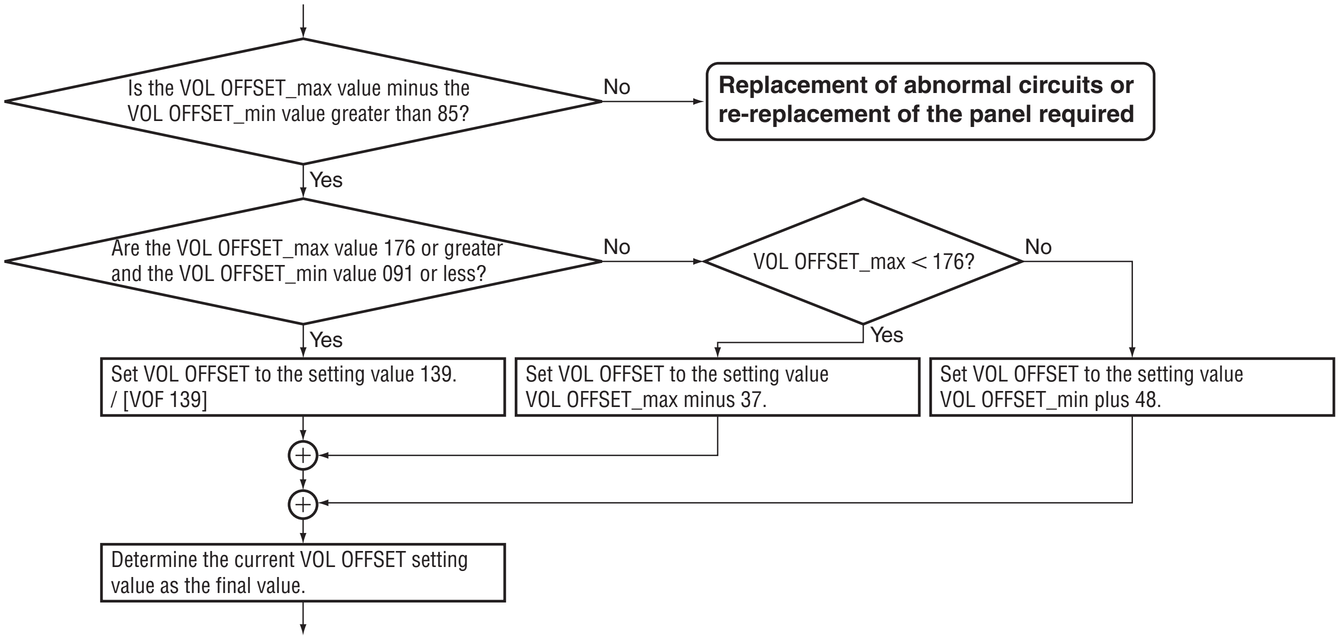
Note: Disregard the discharge that may appear during voltage-change setting.


Display RST MASK 13 (green 1023+3). / [MKS S63]
Set VOL OFFSET to the setting value 240. / [VOF 240]
Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).
∗ This setting becomes VOL OFFSET_max1.
VOL OFFSET_max1
Note:
Make a note of this VOL OFFSET_max1 value.
VOL OFFSET_max1 ≧ 085?
No
Replacement of abnormal circuits or re-replacement of the panel required
Yes
Display RST MASK 14 (blue 1023+3). / [MKS S64]
Set VOL OFFSET to the setting value 240. / [VOF 240]
Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).
∗ This setting becomes VOL OFFSET_max2.
VOL OFFSET_max2
Note:
Make a note of this VOL OFFSET_max2 value.
VOL OFFSET_max2 ≧ 085?
No
Replacement of abnormal circuits or re-replacement of the panel required
Yes
VOL OFFSET_max
Choose the lower value between VOL_OFFSET_max1 and VOL_OFFSET_max2, and set it as VOL_OFFSET_max.

[To the Recovery flowchart (1-3)]

Recovery flowchart (1-3)

[From the Recovery flowchart (1-2)]

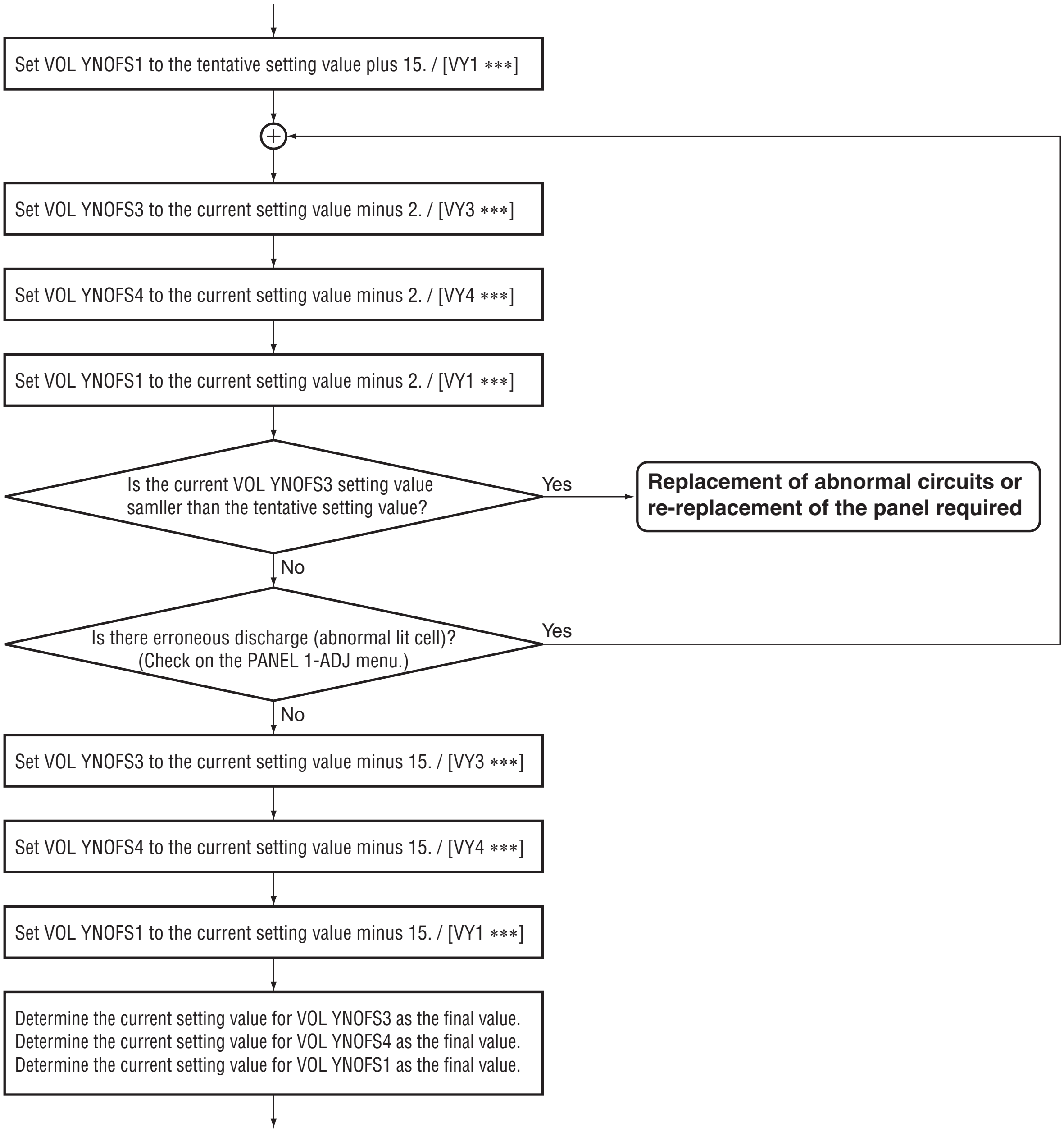

Is the VOL OFFSET_max value minus the VOL OFFSET_min value greater than 85?
No
Replacement of abnormal circuits or re-replacement of the panel required
Yes
Are the VOL OFFSET_max value 176 or greater and the VOL OFFSET_min value 091 or less?
No
VOL OFFSET_max < 176?
No
Yes
Yes
Set VOL OFFSET to the setting value 139. / [VOF 139]
Set VOL OFFSET to the setting value VOL OFFSET_max minus 37.
Set VOL OFFSET to the setting value VOL OFFSET_min plus 48.
Determine the current VOL OFFSET setting value as the final value.

[To the main flowchart (1)]

Recovery flowchart (2-1)...Changing the VOL YNOFS3 setting voltage

Note: Disregard the discharge that may appear during voltage-change setting.

[From the main flowchart (2)]


Set VOL YNOFS1 to the tentative setting value plus 15. / [VY1 ∗∗∗]
Set VOL YNOFS3 to the current setting value minus 2. / [VY3 ∗∗∗]
Set VOL YNOFS4 to the current setting value minus 2. / [VY4 ∗∗∗]
Set VOL YNOFS1 to the current setting value minus 2. / [VY1 ∗∗∗]
Is the current VOL YNOFS3 setting value samller than the tentative setting value?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
No
Set VOL YNOFS3 to the current setting value minus 15. / [VY3 ∗∗∗]
Set VOL YNOFS4 to the current setting value minus 15. / [VY4 ∗∗∗]
Set VOL YNOFS1 to the current setting value minus 15. / [VY1 ∗∗∗]
Determine the current setting value for VOL YNOFS3 as the final value.
Determine the current setting value for VOL YNOFS4 as the final value.
Determine the current setting value for VOL YNOFS1 as the final value.

[To the main flowchart (2)]

Setting Voltages

VOF	
Vysnofs (V)	Value
14	000
15	005
16	011
17	016
18	021
19	027
20	032
21	037
22	043
23	048
24	053
25	059
26	064
27	069
28	075
29	080
30	085
31	091
32	096
33	101
34	107
35	112
36	117
37	123
38	128
39	133
40	139
41	144
42	149
43	155
44	160
45	165
46	171
47	176
48	181
49	187
50	192
51	197
52	203
53	208
54	213
55	219
56	224
57	229
58	235
59	240
60	245
61	251

VRP					
Vyprst (V)	Value	Vyprst (V)	Value	Vyprst (V)	Value
130	001	190	109	250	217
131	003	191	111	251	219
132	004	192	113	252	221
133	006	193	114	253	223
134	008	194	116	254	224
135	010	195	118	255	226
136	012	196	120	256	228
137	013	197	122	257	230
138	015	198	123	258	232
139	017	199	125	259	233
140	019	200	127	260	235
141	021	201	129	261	237
142	022	202	131	262	239
143	024	203	133	263	241
144	026	204	134	264	242
145	028	205	136	265	244
146	030	206	138	266	246
147	031	207	140	267	248
148	033	208	142	268	250
149	035	209	143	269	251
150	037	210	145	270	253
151	039	211	147	271	255
152	041	212	149		
153	042	213	150		
154	044	214	152		
155	046	215	154		
156	048	216	156		
157	050	217	158		
158	051	218	159		
159	053	219	161		
160	055	220	163		
161	057	221	165		
162	059	222	167		
163	060	223	169		
164	062	224	170		
165	064	225	172		
166	066	226	174		
167	068	227	176		
168	069	228	178		
169	071	229	179		
170	073	230	181		
171	075	231	183		
172	076	232	185		
173	078	233	187		
174	080	234	188		
175	082	235	190		
176	084	236	192		
177	086	237	194		
178	087	238	196		
179	089	239	197		
180	091	240	199		
181	093	241	201		
182	095	242	203		
183	096	243	205		
184	098	244	206		
185	100	245	208		
186	102	246	210		
187	104	247	212		
188	105	248	214		
189	107	249	215		

VY1			
Vyknofs1,2 (V)	Value	Vyknofs1,2 (V)	Value
151	001	211	129
152	003	212	131
153	005	213	133
154	008	214	136
155	010	215	138
156	012	216	140
157	014	217	142
158	016	218	144
159	018	219	146
160	020	220	148
161	022	221	150
162	025	222	153
163	027	223	155
164	029	224	157
165	031	225	159
166	033	226	161
167	035	227	163
168	037	228	165
169	040	229	168
170	042	230	170
171	044	231	172
172	046	232	174
173	048	233	176
174	050	234	178
175	052	235	180
176	054	236	182
177	057	237	185
178	059	238	187
179	061	239	189
180	063	240	191
181	065	241	193
182	067	242	195
183	069	243	197
184	072	244	200
185	074	245	202
186	076	246	204
187	078	247	206
188	080	248	208
189	082	249	210
190	084	250	212
191	086	251	214
192	089	252	217
193	091	253	219
194	093	254	221
195	095	255	223
196	097	256	225
197	099	257	227
198	101	258	229
199	104	259	232
200	106	260	234
201	108	261	236
202	110	262	238
203	112	263	240
204	114	264	242
205	116	265	244
206	118	266	246
207	121	267	249
208	123	268	251
209	125	269	253
210	127	270	255

VY3			
Vyknofs3 (V)	Value	Vyknofs3 (V)	Value
151	001	211	129
152	003	212	131
153	005	213	133
154	008	214	136
155	010	215	138
156	012	216	140
157	014	217	142
158	016	218	144
159	018	219	146
160	020	220	148
161	022	221	150
162	025	222	153
163	027	223	155
164	029	224	157
165	031	225	159
166	033	226	161
167	035	227	163
168	037	228	165
169	040	229	168
170	042	230	170
171	044	231	172
172	046	232	174
173	048	233	176
174	050	234	178
175	052	235	180
176	054	236	182
177	057	237	185
178	059	238	187
179	061	239	189
180	063	240	191
181	065	241	193
182	067	242	195
183	069	243	197
184	072	244	200
185	074	245	202
186	076	246	204
187	078	247	206
188	080	248	208
189	082	249	210
190	084	250	212
191	086	251	214
192	089	252	217
193	091	253	219
194	093	254	221
195	095	255	223
196	097	256	225
197	099	257	227
198	101	258	229
199	104	259	232
200	106	260	234
201	108	261	236
202	110	262	238
203	112	263	240
204	114	264	242
205	116	265	244
206	118	266	246
207	121	267	249
208	123	268	251
209	125	269	253
210	127	270	255

VY4			
Vyknofs4 (V)	Value	Vyknofs4 (V)	Value
151	001	211	129
152	003	212	131
153	005	213	133
154	008	214	136
155	010	215	138
156	012	216	140
157	014	217	142
158	016	218	144
159	018	219	146
160	020	220	148
161	022	221	150
162	025	222	153
163	027	223	155
164	029	224	157
165	031	225	159
166	033	226	161
167	035	227	163
168	037	228	165
169	040	229	168
170	042	230	170
171	044	231	172
172	046	232	174
173	048	233	176
174	050	234	178
175	052	235	180
176	054	236	182
177	057	237	185
178	059	238	187
179	061	239	189
180	063	240	191
181	065	241	193
182	067	242	195
183	069	243	197
184	072	244	200
185	074	245	202
186	076	246	204
187	078	247	206
188	080	248	208
189	082	249	210
190	084	250	212
191	086	251	214
192	089	252	217
193	091	253	219
194	093	254	221
195	095	255	223
196	097	256	225
197	099	257	227
198	101	258	229
199	104	259	232
200	106	260	234
201	108	261	236
202	110	262	238
203	112	263	240
204	114	264	242
205	116	265	244
206	118	266	246
207	121	267	249
208	123	268	251
209	125	269	253
210	127	270	255

8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED

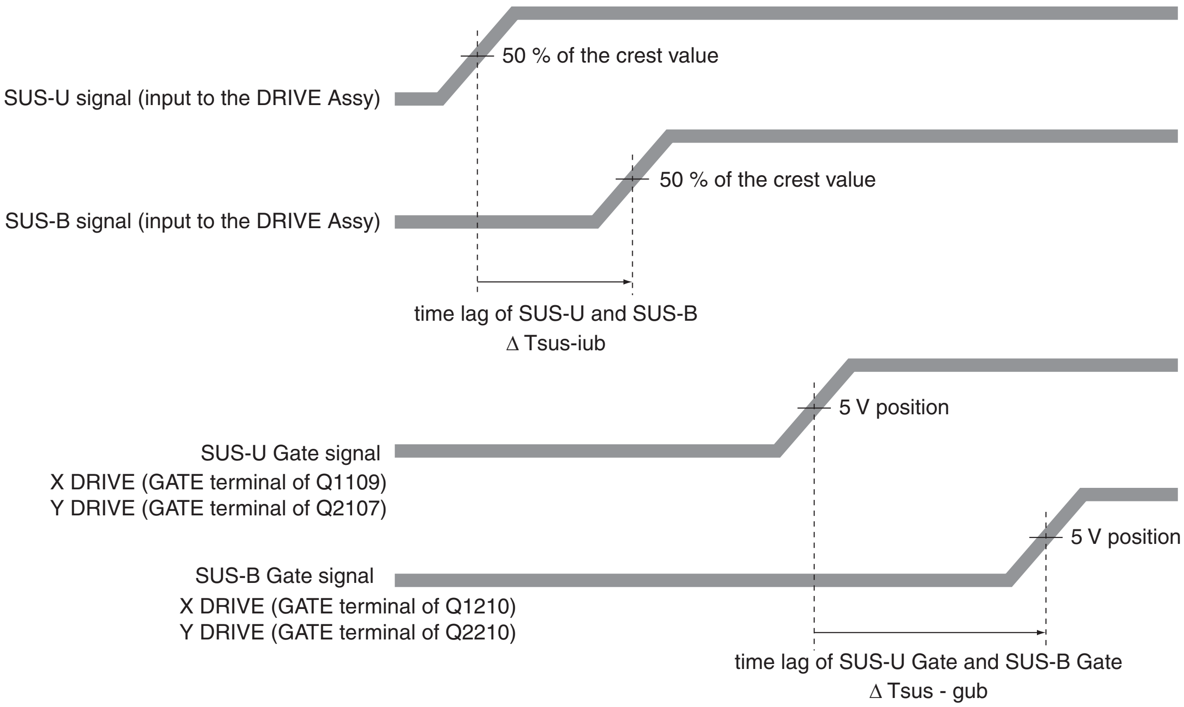
■ Waveform adjustments required when replacing the following parts of the X DRIVE and Y DRIVE Assys.

Assy Name	Ref No.	Part Name	Part Category	Remarks
X DRIVE Assy	IC1101	PS9117AP	Photo Coupler	
	IC1104	TND307TD	FET Driver	
	IC1204	PS9117AP	Photo Coupler	
	IC1209	TND307TD	FET Driver	
Y DRIVE Assy	IC2101	PS9117AP	Photo Coupler	
	IC2103	TND307TD	FET Driver	
	IC2201	PS9117AP	Photo Coupler	
	IC2203	TND307TD	FET Driver	

■ TIME LAG ADJUSTMENT OF THE CONTROL SIGNAL (SUS-B)

① Measure the time lag for the SUS-U signal to the SUS-B signal.
② Check the time lag for the SUS-B GATE signal to the SUS-U GATE siganl.
Adjust the variable control so that the time lag of GATE becomes " time lag of input signal + α ± 5 nsec."

Note: For details on measuring points of waveform, see the figure below.


50 % of the crest value
SUS-U signal (input to the DRIVE Assy)
50 % of the crest value
SUS-B signal (input to the DRIVE Assy)
time lag of SUS-U and SUS-B
Δ Tsus-iub
5 V position
SUS-U Gate signal
X DRIVE (GATE terminal of Q1109)
Y DRIVE (GATE terminal of Q2107)
5 V position
SUS-B Gate signal
X DRIVE (GATE terminal of Q1210)
Y DRIVE (GATE terminal of Q2210)
time lag of SUS-U Gate and SUS-B Gate
Δ Tsus - gub

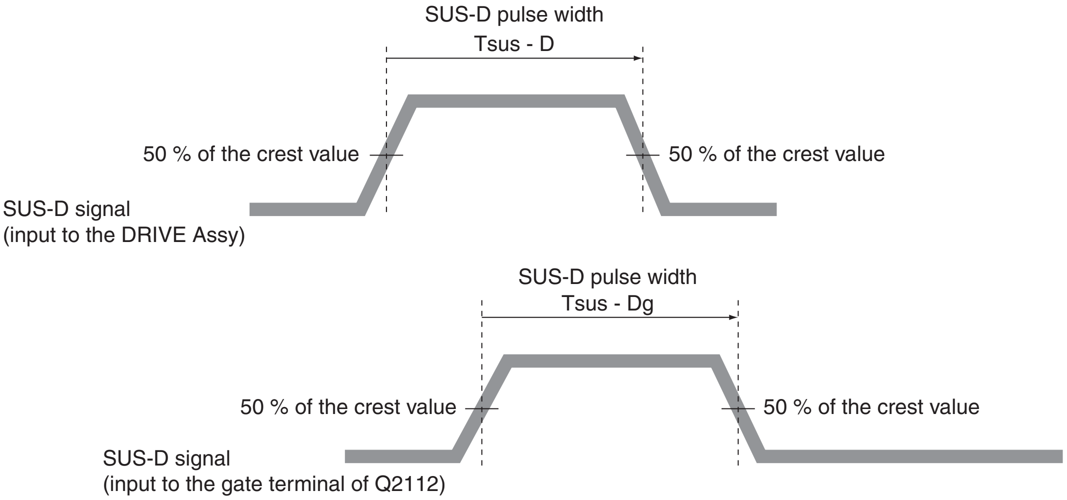
Time lag of SUS-U Gate and SUS-B Gate : Δ Tsus - gub
Adjust so that "Δ Tsus - gub = Δ Tsus - iub + α ± 5 nsec," using the variable controls shown in the table below:

Assy	VR	Value of α
X DRIVE Assy	VR1002	70 nsec
Y DRIVE Assy	VR2002	50 nsec

DELAY ADJUSTMENT OF THE CONTROL SIGNAL (SUS-D)

① Measure the pulse width of the SUS-D signal.
② Check the pulse width of the SUS-D input signal (gate terminal of Q2112).
Adjust the variable control so that the pulse width of the SUS-D input signal (gate terminal of Q2112) becomes the same pulse width ± 5 nsec as the SUS-D signal.

Note: For details on measuring points of waveform, see the figure below.

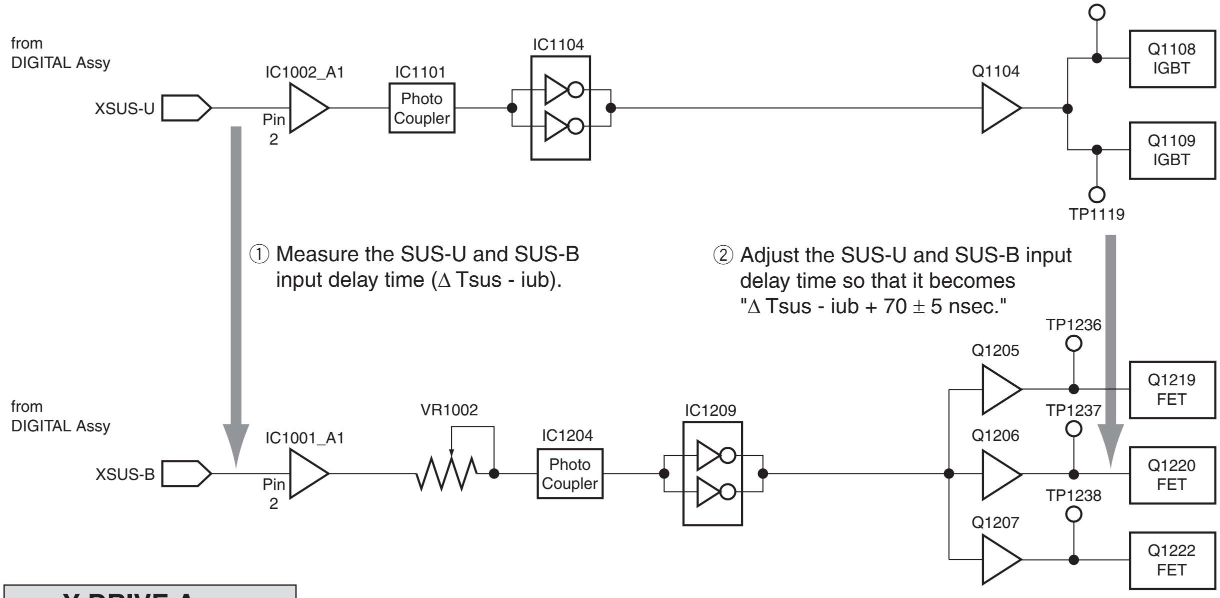

SUS-D pulse width
Tsus - D
50 % of the crest value
50 % of the crest value
SUS-D signal
(input to the DRIVE Assy)
SUS-D pulse width
Tsus - Dg
50 % of the crest value
50 % of the crest value
SUS-D signal
(input to the gate terminal of Q2112)

SUS-D pulse width: Tsus - Dg
Adjust so that "Tsus - Dg = Tsus - D ± 5 nsec," using the variable control shown in the table below:

Assy	VR
Y DRIVE Assy	VR2001

SUS-B ADJUSTMENT

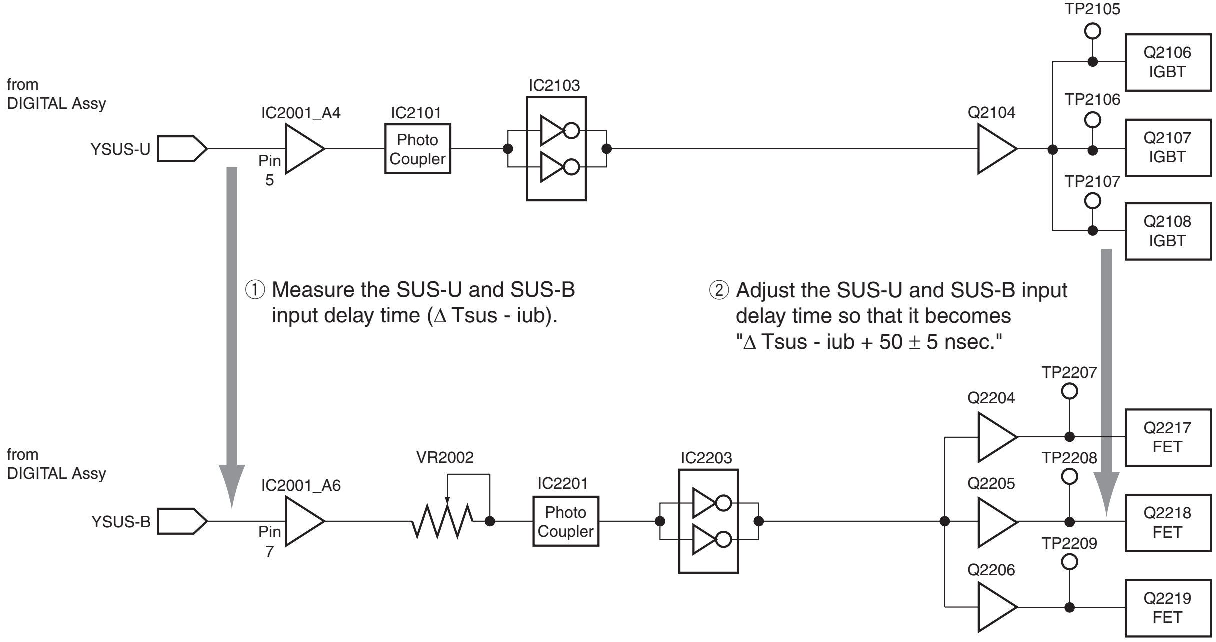
X DRIVE Assy


from
DIGITAL Assy
XSUS-U
IC1002_A1
Pin
2
IC1101
Photo
Coupler
IC1104
Q1104
TP1118
Q1108
IGBT
Q1109
IGBT
TP1119
from
DIGITAL Assy
XSUS-B
IC1001_A1
Pin
2
VR1002
IC1204
Photo
Coupler
IC1209
Q1205
Q1206
Q1207
TP1236
TP1237
TP1238
Q1219
FET
Q1220
FET
Q1222
FET

① Measure the SUS-U and SUS-B input delay time (Δ Tsus - iub).

② Adjust the SUS-U and SUS-B input delay time so that it becomes "Δ Tsus - iub + 70 ± 5 nsec."

Y DRIVE Assy

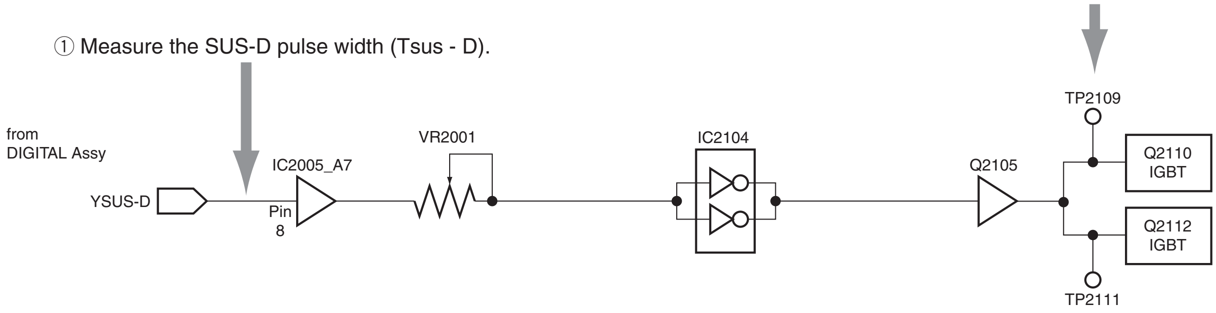

from
DIGITAL Assy
YSUS-U
IC2001_A4
Pin
5
IC2101
Photo
Coupler
IC2103
Q2104
TP2105
TP2106
TP2107
Q2106
IGBT
Q2107
IGBT
Q2108
IGBT
from
DIGITAL Assy
YSUS-B
IC2001_A6
Pin
7
VR2002
IC2201
Photo
Coupler
IC2203
Q2204
Q2205
Q2206
TP2207
TP2208
TP2209
Q2217
FET
Q2218
FET
Q2219
FET

① Measure the SUS-U and SUS-B input delay time (Δ Tsus - iub).

② Adjust the SUS-U and SUS-B input delay time so that it becomes "Δ Tsus - iub + 50 ± 5 nsec."

SUS-D ADJUSTMENT

Y DRIVE Assy


from
DIGITAL Assy
YSUS-D
IC2005_A7
Pin
8
VR2001
IC2104
Q2105
TP2109
Q2110
IGBT
Q2112
IGBT
TP2111

② Adjust the pulse width (Tsus - Dg) of the SUS-D input signal so that it becomes "Tsus-D ± 5 nsec."

① Measure the SUS-D pulse width (Tsus - D).

9. RS-232C

9.1 OUTLINE OF RS-232C COMMAND

9.1.1 PREPARED TOOLS

It is necessary to prepare the following one to use 232C command.

- PC
- Application for control
- 232C cable (straight)

∗ The setting of the Com port cannot be communicated if it doesn't do correctly.
(Please follow a set explanation of PC in the Com port)

9.1.2 USING RS-232C COMMANDS

Individual ports are provided for RS-232C and SR+ connectors with this model. Therefore, unlike the case of previous models, which required switching of exclusive operation between these connectors on the Integrator menu, switching is no longer required.

9.2 LIST OF RS-232C COMMANDS

RS-232C commands can be used in Service Factory mode. Before using RS-232C commands, it is necessary to change the factory presetting. See "9.1 OUTLINE OF RS-232C COMMAND".
[Note ; If you want to see version infomation (ex. QS1, QSE, Factory, Menu), Please see 10 seconds after starting.]

■ RS-232C command list

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
A							
ABL	***	Adjusting the upper limit of the power	●		Mod	●	
AMT	S00	Audio mute OFF		●			
	S01	Audio mute ON		●			
AP0	S**	ADDRESS L1, L2 setting	●		Mod	●	UP*/DN* is not effective
AP1	S**	ADDRESS L3, L4 setting	●		Mod	●	UP*/DN* is not effective
APN	***	1V average pulse number setting	●		Mod	●	UP*/DN* is not effective
APW	S00	APL interlocked function: OFF	●			●	
	S01	APL interlocked function: ON	●			●	
	S02	APL interlocked WB: ON / APL interlocked γ : OFF	●			●	
	S03	APL interlocked WB: OFF / APL interlocked γ : ON	●			●	
B							
BCP		Copying the backup data in the EEPROM	●			●	
BHI	***	User white balance : BLUE highlight	●				
BLW	***	User white balance : BLUE lowlight	●				
BRT	***	User brightness	●				
BSM	S00	After image/Burning safe mode: OFF	●				
	S01	After image/Burning safe mode: ON	●				
C							
CBU		Clearing backup data of EEPROM	●			●	
CHM		Clearing data of the hour meter	●			●	
CHN	FWD	Changing tuner preset channel (1 step forward)		●			
	REV	Changing tuner preset channel (1 step reverse)		●			
CNT	***	User contrast	●				
CMT		Clearing data of the maximum temperature	●			●	
CPC		Clearing power-on count data	●			●	
CPD		Clearing power-down histrory	●			●	
CPM		Clearing data of the pulse meter	●			●	
CSD		Clearing shutdown history	●			●	
D							
DIZ	S00	Dither/L dither OFF & noise OFF	●			●	
	S01	Dither/L dither ON & noise ON	●			●	
	S02	Dither/L dither OFF & noise ON	●			●	
	S03	Dither/L dither ON & noise OFF	●			●	
DRV	S00	Panel drive power OFF	●				
	S01	Panel drive power ON	●				
DW*		To subtract *** to the adjustment value (*** = 000 to 999, designated by a function command)		●			
F							
FAJ		Determining the flag of the DIGITAL Assy adjustment in "adjustment is completed"	●			●	
FAN		Factory mode off	●	●		●	
FAY		Factory mode on	●	●			
FST		Set each memory setting of MTB side to the shipment state.		●		●	

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
G							
GHI	***	User white balance : GREEN highlight	●				
GLW	***	User white balance : GREEN low light	●				
I							
INA	***	Switching the terrestrial analog signal (***: channel number)		●	Main		
		Switching the terrestrial analog signal		●	Main		
INC	***	Switching the terrestrial digital signal (Step-upD and RegularD only) (***:channel number)		●	Main		
		Switching the terrestrial digital signal (Step-upD and RegularD only)		●	Main		
INH		Switching the HomeGallery		●			
INP	S01	Input switch: INPUT 1		●	Main		
	S02	Input switch: INPUT 2		●	Main		
	S03	Input switch: INPUT 3		●	Main		
	S04	Input switch: INPUT 4		●	Main		
	S05	Input switch: INPUT 5		●	Main		
	S06	Input switch: INPUT 6 (PC)		●	Main		
M							
MKC	S00	Panel mask indication off	●		Mod		
	S01	H ramp (slant 1) M	●		Mod	●	
	S02	H ramp (slant 4) M	●		Mod	●	
	S03	Slanting ramp M	●		Mod	●	
	S04	30 for aging	●		Mod	●	
	S05	05 for aging	●		Mod	●	
	S06	Erasing afterimage 1	●		Mod	●	
	S07	Erasing afterimage 2 (RGB: zigzag, V: reverse)	●		Mod	●	
	S08	White (change in luminance level)	●		Mod	●	
	S09	PEAK SEEK RASTER	●		Mod	●	
	S10	For engineering use	●		Mod	●	
	S11	Green vertical line scroll	●		Mod	●	
	S12	Green horizontal line scroll	●		Mod	●	
	S13	Vertical ramp vertical scroll (white)	●		Mod	●	
	S14	Vertical ramp vertical scroll (green)	●		Mod	●	
	S15	Horizontal ramp horizontal scroll (white)	●		Mod	●	
	S16	Horizontal ramp horizontal scroll (green)	●		Mod	●	
	S17	Cross hatch + window	●		Mod	●	
MKS	S00	MASK off	●		Mod		
	S01	H ramp (slant 1)	●		Mod	●	
	S02	H ramp (slant 4)	●		Mod	●	
	S03	V ramp (slant 1)	●		Mod	●	
	S04	Slanting ramp	●		Mod	●	
	S05	Window (Hi= 870, Lo= 102)	●		Mod	●	

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
M							
MKS	S06	Window (Hi= 1023, Lo= 102)	●		Mod	●	
	S07	Window (Hi= 1023, Lo=000)	●		Mod	●	
	S08	Window (Hi= 1023) 4 %	●		Mod	●	
	S09	Window (Hi= 1023) 1.25 %	●		Mod	●	
	S10	Window (1/7 LINE)	●		Mod	●	
	S11	STRIPE (MGT/GRN)	●		Mod	●	
	S12	STRIPE (GRN/MGT)	●		Mod	●	
	S13	B & W, checker (1 line)	●		Mod	●	
	S14	B & W, checker (2 lines)	●		Mod	●	
	S15	B & W, checker (4 lines)	●		Mod	●	
	S16	B & W, checker (8 lines)	●		Mod	●	
	S17	COLOR BAR	●		Mod	●	
	S18	Slanting lines	●		Mod	●	
	S19	Red & black, checker (1 line)	●		Mod	●	
	S20	Red & black, checker (2 lines)	●		Mod	●	
	S21	Red & black, checker (4 lines)	●		Mod	●	
	S22	Red & black, checker (8 lines)	●		Mod	●	
	S23	Erasing afterimage (RGB: zigzag, V: reverse)	●		Mod	●	
	S24	SUS 2000 pulses (black raster)	●		Mod	●	
	S25	1 for perfect linear	●		Mod	●	
	S26	2 for perfect linear	●		Mod	●	
	S27	3 for perfect linear	●		Mod	●	
	S28	4 for perfect linear	●		Mod	●	
	S29	RGB checker 1	●		Mod	●	
	S30	RGB checker 2	●		Mod	●	
	S31	Window RED (RED=1023)	●		Mod	●	
	S32	Window GREEN (GREEN=1023)	●		Mod	●	
	S33	Window BLUE (BLUE=1023)	●		Mod	●	
	S34	Even line horizontal stripes	●		Mod	●	
	S35	Odd line horizontal stripes	●		Mod	●	
	S36	Afterimage check 1	●		Mod	●	
	S37	Afterimage check 2	●		Mod	●	
	S38	Afterimage check 3	●		Mod	●	
	S39	Afterimage check 4	●		Mod	●	
	S40	Red single-color slanting ramp	●		Mod	●	
	S41	GREEN single-color slanting ramp	●		Mod	●	
	S42	BLUE single-color slanting ramp	●		Mod	●	
	S43	Black back acnode	●		Mod	●	
	S44	Horizontal stripes every eight white lines	●		Mod	●	
	S45	5 for perfect linear	●		Mod	●	
	S46	6 for perfect linear	●		Mod	●	
	S47	7 for perfect linear	●		Mod	●	
	S48	8 for perfect linear	●		Mod	●	
	S49	Mask for ABL adjustment	●		Mod	●	
	S51	Raster - White	●		Mod	●	
	S52	Raster - Red	●		Mod	●	
	S53	Raster - Green	●		Mod	●	
	S54	Raster - Blue	●		Mod	●	
	S55	Raster - Black	●		Mod	●	

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
MKS	S56	Raster - Cyan	●		Mod	●	
	S57	Raster - Magenta	●		Mod	●	
	S58	Raster - Yellow	●		Mod	●	
	S59	Raster - Light blue	●		Mod	●	
	S60	Raster - Pale purple	●		Mod	●	
	S61	Raster - Pale purple 2	●		Mod	●	
	S62	Raster - Red 1023+3	●		Mod	●	
	S63	Raster - Green 1023+3	●		Mod	●	
	S64	Raster - Blue 1023+3	●		Mod	●	
	S65	Raster - Red 179	●		Mod	●	
	S66	Raster - Green 179	●		Mod	●	
	S67	Raster - Blue 179	●		Mod	●	
	S68	Raster - Cyan 67	●		Mod	●	
	S69	Raster - Magenta 67	●		Mod	●	
	S70	Raster - Green 137	●		Mod	●	
	S71	Raster - Beige	●		Mod	●	
	S72	Raster - Blue 1023+	●		Mod	●	
	S73	Raster - Red 635	●		Mod	●	
	S74	Raster - Blue 635	●		Mod	●	
	S75	Raster - Gray 307	●		Mod	●	
MST	S00	Display one screen		●			
	S01	PsideP (Main size: normal)		●			
	S02	PinP (Right down)		●			
	S03	PinP (Right up)		●			
	S04	PinP (Left up)		●			
	S05	PinP (Left down)		●			
	S08	SWAP (Exchanging sub-screen)		●			
N							
NGP	S00	Negative positive inversion: OFF	●			●	
	S01	Negative positive inversion: ON	●			●	
O							
OSD	S00	Turning OSD setting to off		●	Main		
	S01	Turning OSD setting to on		●	Main		
P							
PAV	S**	Switching panel functions interlocked with the AV selection	●				
PBH	***	Panel white balance adjustment - Blue highlight	●		Mod	●	
PBL	***	Panel white balance adjustment - Blue low light	●		Mod	●	
PDM	S00	Passing PD signals to the POWER SUPPLY Unit => Power-down	●				
	S01	Not passing PD signals to the POWER SUPPLY Unit => No power-down	●				
PFL	S00	Peripheral luminance correction: OFF	●			●	
	S01	Peripheral luminance correction: ON fixed	●			●	
	S02	Peripheral luminance correction: APL interlocked ON	●			●	
PES	S00	Set the power consumption setting of the panel side to OFF	●				
	S01	Set the power consumption setting of the panel side to Energy saving 1	●				
	S02	Set the power consumption setting of the panel side to Energy saving 2	●				
PFN		Factory mode: off	●			●	
PFS		Setup at shipment	●			●	
PFY		Factory mode: on	●			●	
PGB	S**	Independent gamma Blue	●				
PGG	S**	Independent gamma Green	●				

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
P							
PGR	S**	Independent gamma Red	●				
PGH	***	Panel white balance adjustment - Green highlight	●		Mod	●	
PGL	***	Panel white balance adjustment - Green low light	●		Mod	●	
PMT	S00	Canceling panel muting	●				
	S01	Panel muting	●				
PKD	S00	Peak luminance detection: OFF	●			●	
	S01	Peak luminance detection: ON	●			●	
PKL	S**	Panel brightness setting	●				
POF		Power OFF	●	●	Main		
PON		Power on	●	●	Main		
PPT	S00	Panel protection: off	●			●	
	S01	Panel protection: on	●			●	
PRH	***	Panel white balance adjustment - Red highlight	●		Mod	●	
PRL	***	Panel white balance adjustment - Red low light	●		Mod	●	
PUC	S00	Pure cinema: off		●	Main	●	
	S01	Pure cinema: Standard		●	Main	●	
	S02	Pure cinema: Advance		●	Main	●	
	S03	Pure cinema: Smooth		●	Main	●	
Q							
QAJ		Acquiring various adjustment values	●				
QMT		Acquiring temperature of MTB side and Fan speed		●			
QNG		Acquiring shutdown information of MTB side		●			
QPD		Acquiring logs of power-down points	●				
QPM		Acquiring data of the pulse meter	●				
QPW		Acquiring panel white balance adjustment values	●				
QS1		Acquiring unit data, such as the software version common to all models, regardless of destination	●	●			
QS2		Acquiring data on the status of the unit, such as temperature	●				
QS3		Each information output for panel	●				
QSE		Acquiring unit data, such as the software version common to all models, regardless of destination		●			
QSD		Acquiring data on shutdown	●				
QSI		Acquiring data related with signals	●				
QSP		Acquiring the software sub-version of the microcomputer at panel side	●				
R							
RBL	S**	Setting of blue level for panel degradation correction	●		Mod	●	
RGL	S**	Setting of green level for panel degradation correction	●		Mod	●	
RHI	***	User white balance - Red highlight	●				
RLS	S**	Room light sensor operation at panel side	●				
RLW	***	User white balance - Red low light	●				
RRL	S**	Setting of red level for panel degradation correction	●		Mod	●	
R1K	***	RESET1ST_KSB adjustment	●		Mod	●	UP*/DN* is not effective
R2K	***	RESET2ND_KSB adjustment	●		Mod	●	UP*/DN* is not effective

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
S							
SDM	S00	Shutdown enabled	●				
	S01	Shutdown prohibited	●				
SFR	S01	Measures against AM radio noise - Pattern 1	●		Mod	●	
	S02	Measures against AM radio noise - Pattern 2	●		Mod	●	
	S03	Measures against AM radio noise - Pattern 3	●		Mod	●	
	S04	Measures against AM radio noise - Pattern 4	●		Mod	●	
	S05	Measures against AM radio noise - Pattern 5	●		Mod	●	
	S06	Measures against AM radio noise - Pattern 6	●		Mod	●	
	S07	Measures against AM radio noise - Pattern 7	●		Mod	●	
	S08	Measures against AM radio noise - Pattern 8	●		Mod	●	
SKM	S00	STREAKING correction OFF	●		Mod	●	
	S01	STREAKING correction mode 1	●		Mod	●	
	S02	STREAKING correction mode 2	●		Mod	●	
	S03	STREAKING correction mode 3	●		Mod	●	
	S04	STREAKING correction mode 4	●		Mod	●	
	S05	STREAKING correction mode 5	●		Mod	●	
	S06	STREAKING correction mode 6	●		Mod	●	
	S07	STREAKING correction mode 7	●		Mod	●	
	S08	STREAKING correction mode 8	●		Mod	●	
SMC	S01	Smooth clear drive OFF	●			●	
	S02	Smooth clear drive ON	●			●	
SML	***	Adjustment of the side mask level		●	Main	●	
SMM	S**	Setting of the effective area during streaking correction	●			●	
SN0	***	Setting of the serial No. 0 (panel)	●		Mod	●	
SN1	***	Setting of the serial No. 1 (panel)	●		Mod	●	
SN2	***	Setting of the serial No. 2 (panel)	●		Mod	●	
SN3	***	Setting of the serial No. 3 (panel)	●		Mod	●	
SN4	***	Setting of the serial No. 4 (panel)	●		Mod	●	
SQM	S01	VIDEO sequence setting	●				
	S02	PC sequence setting	●				
SSM	S01	SSCG OFF	●			●	
	S02	SSCG ON	●			●	
SZM	S00	Setting the screen size to Dot by Dot		●	Main		
	S01	Setting the screen size to 4 :3		●	Main		
	S02	Setting the screen size to FULL		●	Main		
	S03	Setting the screen size to ZOOM		●	Main		
	S04	Setting the screen size to CINEMA		●	Main		
	S05	Setting the screen size to WIDE		●	Main		
	S06	Setting the screen size to FULL 14 : 9		●	Main		
	S07	Setting the screen size to CINEMA 14 : 9		●	Main		
T							
THS	S00	Theater port interlock operation OFF	●				
	S01	Theater port interlock operation ON	●				
U							
UAJ		Determining the flag for the DIGITAL Assy adjustment in "not adjusted"	●				
UP*		To add *** to the adjustment value (*** = 000 to 999, designated by a function command)		●			

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
V							
VFQ	S01	Setting the frequency in Mask mode to VD-48 Hz	●		Mod	●	
	S02	Setting the frequency in Mask mode to VD-50 Hz	●		Mod	●	
	S03	Setting the frequency in Mask mode to VD-60 Hz	●		Mod	●	
	S05	Setting the frequency in Mask mode to VD-72 Hz	●		Mod	●	
	S06	Setting the frequency in Mask mode to VD-75 Hz	●		Mod	●	
	S13	Setting the frequency in Mask mode to PC-60 Hz	●		Mod	●	
	S22	Setting the frequency in Mask mode to VD-50 Hz (nonstandard)	●		Mod	●	
	S23	Setting the frequency in Mask mode to VD-60 Hz (nonstandard)	●		Mod	●	
	S25	Setting the frequency in Mask mode to VD-72 Hz (nonstandard)	●		Mod	●	
	S26	Setting the frequency in Mask mode to VD-75 Hz (nonstandard)	●		Mod	●	
VOF	***	Adjustment of the reference value of Vofs voltage	●			●	
VOL	UP*, DW*, ***	To adjust the volume (to be used in combination with UP*/DW*)		●			
VRP	***	Adjustment of the reference value of Vrst-p voltage	●			●	
VSU	***	Adjustment of the reference value of Vsus voltage	●			●	
VX1	***	Adjustment of the reference value of Vxpofs1 voltage	●		Mod	●	UP*/DN* is not effective
VX2	***	Adjustment of the reference value of Vxpofs2 voltage	●		Mod	●	UP*/DN* is not effective
VY1	***	Adjustment of the reference value of Vyknofs1, 2 voltage	●		Mod	●	UP*/DN* is not effective
VY3	***	Adjustment of the reference value of Vyknofs3 voltage	●		Mod	●	UP*/DN* is not effective
VY4	***	Adjustment of the reference value of Vyknofs4 voltage	●		Mod	●	UP*/DN* is not effective
W							
WBI	S00	Panel WB standard output mode: off	●			●	
	S01	Panel WB standard output mode: on	●			●	
X							
X1B	***	XSUS_1ST_B adjustment	●		Mod	●	UP*/DN* is not effective
X3B	***	XSUS_3RD_B adjustment	●		Mod	●	UP*/DN* is not effective
XSB	***	XSUS_B adjustment	●		Mod	●	UP*/DN* is not effective
Y							
Y1K	***	YSTL_1SF_KSB adjustment	●		Mod	●	UP*/DN* is not effective
Y1Z	***	YSTL_1SF_HZ adjustment	●		Mod	●	UP*/DN* is not effective
Y2B	***	YSUS_2ND_B adjustment	●		Mod	●	UP*/DN* is not effective
Y2K	***	YSTL_2SF_KSB adjustment	●		Mod	●	UP*/DN* is not effective
Y2Z	***	YSTL_2SF_HZ adjustment	●		Mod	●	UP*/DN* is not effective
YNK	***	YSTL_FMR_KSB adjustment	●		Mod	●	UP*/DN* is not effective
YNZ	***	YSTL_FMR_HZ adjustment	●		Mod	●	UP*/DN* is not effective
YTK	***	YSTL_KSB adjustment	●		Mod	●	UP*/DN* is not effective
YTZ	***	YSTL_HZ adjustment	●		Mod	●	UP*/DN* is not effective
YSB	***	Y-SUS-B adjustment	●		Mod	●	UP*/DN* is not effective
Z							
ZME		Initializing the video EEPROM data		●		●	
ZPR		Initializing the setting data to which no adjustment command is provided	●			●	

9.3 DETAILS OF EACH COMMANDS

9.3.1 QS1 (PANEL STATUS)

Model information and version information are returned.

Command Format	Effective Operation Modes	Function	Remarks
[QS1]	Every Time	Output of status	Return data: 3 (ECO) + 84 (DATA) + 2 (CS) = 89 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS1 (Fixed)
1	Resolution/size	1 byte	6
2	Panel Generation	1 byte	8
3	Destination	1 byte	*
4	Grade	1 byte	*
5	Panel Product Form	1 byte	B
6	Boot version of Module microcomputer	3 byte	05H
7	Program version of Module microcomputer	8 byte	– 01A
8	Boot version of Sequence processor	3 byte	07X
9	Program version of Sequence processor	8 byte	– 01W
10	Panel information	8 byte	G8_50X_4
11	Reserved (*)	8 byte	********
12	, (comma)	1 byte	
13	MTB information 1 (Generation)	1 byte	8
14	MTB information 2 (Regional model)	1 byte	E
15	MTB information 3 (Grade)	1 byte	R
16	MTB information 4 (System Type)	1 byte	B
17	Common version for IF microcomputer	8 byte	– 06A
18	Boot version of IF microcomputer	4 byte	01A
19	Common version for Main microcomputer	8 byte	– 27E
20	Boot version of Main microcomputer	4 byte	– 03E
21	Common version for Multi-processor	8 byte	– 09H
22	Boot version of Multi-processor	4 byte	09A
23	Check Sum	2 byte	FF

13: MTB/MB Generation	
6	G6
7	G7
8	G8
9	G9
0	G10

14: Regional Model	
J	JP
A	US
E	EU
G	GE
C	CH
U	AU

15: MTB/MB Grade	
H	Elite/XDA/Step-upD
T	Step-upA/XG/XC/Regular (US)
B	Not used (For Future)
S	RegularD
R	RegularA

16: MTB/MB Product Form	
S	System model
B	One body model (SX)

1: Resolution/Inch Size	
3	1024*768-42
4	1024*768-43
5	1280*768-50
6	1365*768-50
7	1365*768-60
E	1920*1080-42
F	1920*1080-50
G	1920*1080-60

2: Panel Generation	
6	G6
7	G7
8	G8
9	G9
0	G10

3: Destination	
*	Commonness
A	US (Reserved)
E	EU (Reserved)
J	Japan (Reserved)

4: Grade	
*	Commonness
Z	Evaluation

5: Panel Product Form	
S	System model
B	All-in-one design TV
M	Monitor
D	Standard module
E	Simple module

10: Panel Information		
1 to 3rd byte	G8_	Generation information (+ under bar)
4 to 5th byte	42	42 inch
	50	50 inch
	60	60 inch
	**	PSIZE information and SQ_LSI version mismatching (version mismatching at SD)
6th byte	F	FHD
	X	XGA
	*	Model information and SQ_LSI version mismatching (version mismatching at SD)
7th byte	_	Under bar
8th byte	*	PLANT information and SQ_LSI version mismatching (version mismatching at SD)
	‘	Others

9.3.2 QS2 (PANEL OPERATION DATA)

The command QS2 is for acquiring data on the panel's operational information.

Command Format	Effective Operation Modes	Function	Remarks
[QS2]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO) + 34 (DATA) + 2 (CS) = 39 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS2
1	Notification of mode shifting to STB	1 byte	1
2	Flag for adjustment of the main unit	1 byte	0
3	Flag for adjustment-data backup	1 byte	0
4	"1st PD" data	1 byte	0
5	"2nd PD" data	1 byte	0
6	Reserved	3 byte	***
7	Temperature data (TEMP 1)	3 byte	128
8	SD main data	1 byte	0
9	SD sub data	1 byte	0
10	Operation status induced by SD	1 byte	0
11	Reserved	3 byte	***
12	HOUR METER	8 byte	00000259
13	MASK indication	1 byte	0
14	Still picture detection	1 byte	0
15	SCAN protection detection	1 byte	0
16	Panel crack detection	1 byte	0
17	Address emergency detection	1 byte	0
18	Reserved	4 byte	****
CS		2 byte	4A

1: Notification of mode shifting to Standby	
P	During power ON
0	Entering Standby mode failed
1	Entering Standby mode succeeded

2: Adjustment of the main unit	
0	Adjustment completed
1	Adjustment not completed

3: Adjustment-data backup	
0	With backup data
1	No data (default)

4, 5: PD data	
0	No PD data
1	Not used
2	POWER
3	SCAN
4	SCN-5V
5	Y-DRV
6	Y-DCDC
7	Y-SUS
8	ADRS
9	X-DRV
A	X-DCDC
B	X-SUS
C	DIG-DCDC
D	Not used
E	Not used
F	UNKNOWN

8: SD main data	
0	No SD
1	SQ_LSI
2	MDU-IIC
3	RST2
4	TEMP

9-1: SD-Sub (SQ_LSI)	
0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (M/S)

9-2: SD-Sub (IIC)	
0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC1
4	DAC2

9-3: SD-Sub (TEMP)	
0	No SD-Sub data
1	TEMP1 high temperature
2	TEMP1 low temperature

10: Operation status induced by SD	
0	Normal
1	Relay-off completed
2	During warning indication

13: MASK indication	
0	MASK-OFF
1	MASK-ON

14 to 17: Detection of panel protection function	
0	Normal
1	At detection

9.3.3 QS3 (OTHER DATA ON THE PANEL)

The command QS3 is for acquiring data on operational information of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QS3]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO) + 58 (DATA) + 2 (CS) = 63 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS3
1	SERIAL	15 byte	- - - - - - - - - - - - - - -
2	HOUR METER	8 byte	00000000
3	TOTAL HR METER	8 byte	00000000
4	PON COUNTER	8 byte	00000000
5	TEMP1 acquisition (Temperature value)	5 byte	+23.5 (*1)
6	TEMP0 acquisition (Temperature value)	5 byte	+28.7 (*1)
7	MAX-TEMP1 acquisition (Temperature value)	5 byte	+78.3 (*1)
8	Reserved	4 byte	****
CS		2 byte	94

Note
(*1) : Centigrade scale

9.3.4 QAJ (PANEL ADJUSTMENT DATA)

The command QAJ is for acquiring the panel's factory-preset data.

Command Format	Effective Operation Modes	Function	Remarks
[QAJ]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO) + 84 (DATA) + 2 (CS) = 89 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QAJ
1	V-SUS adjustment value	3 byte	128
2	Vysnofs adjustment value	3 byte	128
3	Vyprst adjustment value	3 byte	128
4	Vxpofs1 adjustment value	3 byte	128
5	Vxpofs2 adjustment value	3 byte	128
6	Vyknofs1,2 adjustment value	3 byte	128
7	Vyknofs3 adjustment value	3 byte	128
8	Vyknofs4 adjustment value	3 byte	128
9	R1K adjustment value	3 byte	128
10	R2K adjustment value	3 byte	128
11	Y1K adjustment value	3 byte	128
12	Y1Z adjustment value	3 byte	128
13	X1B adjustment value	3 byte	128
14	Y2B adjustment value	3 byte	128
15	X3B adjustment value	3 byte	128
16	YSB adjustment value	3 byte	128
17	XSB adjustment value	3 byte	128
18	YTK adjustment value	3 byte	128
19	YTZ adjustment value	3 byte	128
20	Y2K adjustment value	3 byte	128
21	Y2Z adjustment value	3 byte	128
22	YNK adjustment value	3 byte	128
23	YNZ adjustment value	3 byte	128
24	R-REVISE setting value	1 byte	0
25	G-REVISE setting value	1 byte	0
26	B-REVISE setting value	1 byte	0
27	ADDRESS 1, 2 setting value	2 byte	01
28	ADDRESS 3, 4 setting value	2 byte	13
29	ADDRESS 5, 6 setting value	2 byte	32
30	ADDRESS 7, 8 setting value	2 byte	30
31	Streaking correction	1 byte	1
32	AM radio countermeasure	1 byte	1
33	Reserved	2 byte	**
CS		2 byte	B7

31: Streaking correction	
0	OFF
n	n: 1 to 8 (Mode n)

32: AM radio countermeasure	
n	n: 1 to 8 (SUS frequency n)

9.3.5 QPW (VIDEO ADJUSTMENT DATA OF THE PANEL)

The command QPW is for acquiring the factory-preset data about the video of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPW]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPW
1	Drive sequence	3 byte	60V
2	Standard/nonstandard	1 byte	S
3	Type of ABL/WB tables	2 byte	T2
4	ABL adjustment value	3 byte	128
5	R-HIGH adjustment value	3 byte	256
6	G-HIGH adjustment value	3 byte	256
7	B-HIGH adjustment value	3 byte	256
8	R-LOW adjustment value	3 byte	512
9	G-LOW adjustment value	3 byte	512
10	B-LOW adjustment value	3 byte	512
11	R gamma setting	2 byte	31
12	G gamma setting	2 byte	10
13	B gamma setting	2 byte	10
14	Streaking correction	1 byte	1
15	Center luminance correction	1 byte	0
16	Reserved	1 byte	*
17	WB interlocked with APL	1 byte	0
18	Transition of protective operations	1 byte	0
19	Reserved	2 byte	**
CS		2 byte	37

1: Drive sequence	
50V	Video 50 Hz
60V	Video 60 Hz
72V	Video 72 Hz
75V	Video 75 Hz
60P	PC 60 Hz

2: Standard/ nonstandard	
S	Standard
N	Nonstandard

3: Type of ABL/WB tables	
Tn	n: 1 to 4

11, 12, 13: RGB Gamma setting	
n	00 to 31

15: Center luminance correction	
0	OFF
1	ON
2	ON (interlocked with APL)

17: WB interlocked with APL	
0	OFF
1	ON
2	WB interlocked ON/γ OFF
3	WB interlocked OFF/γ ON

18: Transition of brightness by protective operations	
0	Upper limit state for brightness
1	Brightness being reduced
2	Lower limit state for brightness
3	Brightness being increased

9.3.6 QPM (PULSE METER VALUE)

The command QPM is for acquiring the accumulated number of pulses of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPM]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPM
1	Pulse meter B 1	8 byte	00000000
2	Pulse meter B 2	8 byte	00000000
3	Pulse meter B 3	8 byte	00000000
4	Pulse meter B 4	8 byte	00000000
5	Pulse meter B 5	8 byte	00000000
CS		2 byte	E7

9.3.7 QPD (PD LOGS)

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

Command Format	Effective Operation Modes	Function	Remarks
[QPD]	All operations	To acquire data on the power-down logs	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPD
1	Latest "1st PD" data	1 byte	A
2	Latest "2nd PD" data	1 byte	2
3	Data from the hour meter for the latest PD	8 byte	00010020
4	Second latest "1st PD" data	1 byte	E
5	Second latest "2nd PD" data	1 byte	9
6	Data from the hour meter for the second latest PD	8 byte	00008523
7	Third latest "1st PD" data	1 byte	4
8	Third latest "2nd PD" data	1 byte	3
9	Data from the hour meter for the third latest PD	8 byte	00004335
10	Fourth latest "1st PD" data	1 byte	2
11	Fourth latest "2nd PD" data	1 byte	0
12	Data from the hour meter for the fourth latest PD	8 byte	00000945
13	Fifth latest "1st PD" data	1 byte	4
14	Fifth latest "2nd PD" data	1 byte	0
15	Data from the hour meter for the fifth latest PD	8 byte	00000715
16	Sixth latest "1st PD" data	1 byte	A
17	Sixth latest "2nd PD" data	1 byte	2
18	Data from the hour meter for the sixth latest PD	8 byte	00000552
19	Seventh latest "1st PD" data	1 byte	A
20	Seventh latest "2nd PD" data	1 byte	0
21	Data from the hour meter for the seventh latest PD	8 byte	00000213
22	Eighth latest "1st PD" data	1 byte	D
23	Eighth latest "2nd PD" data	1 byte	0
24	Data from the hour meter for the eighth latest PD	8 byte	000001A7
CS		2 byte	27

1, 2, 4, 5: PD data	
0	No PD
1	Not used
2	P-POWER
3	SCAN
4	SCN-5V
5	Y-DRIVE
6	Y-DCDC
7	Y-SUS
8	Address
9	X-DRIVE
A	X-DCDC
B	X-SUS
C	DIG-DCDC
D	Not used
E	Not used
F	UNKNOWN

9.3.8 QSD (SD LOGS)

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs.

Command Format	Effective Operation Modes	Function	Remarks
[QSD]	All operations	To acquire data on the shutdown logs	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSD
1	Latest SD data	1 byte	1
2	Latest SD subcategory data	1 byte	0
3	Data from the hour meter for the latest SD	8 byte	00752013
4	Second latest SD data	1 byte	5
5	Second latest SD subcategory data	1 byte	0
6	Data from the hour meter for the second latest SD	8 byte	00495204
7	Third latest SD data	1 byte	2
8	Third latest SD subcategory data	1 byte	3
9	Data from the hour meter for the third latest SD	8 byte	00100355
10	Fourth latest SD data	1 byte	2
11	Fourth latest SD subcategory data	1 byte	5
12	Data from the hour meter for the fourth latest SD	8 byte	00075620
13	Fifth latest SD data	1 byte	1
14	Fifth latest SD subcategory data	1 byte	0
15	Data from the hour meter for the fifth latest SD	8 byte	00000852
16	Sixth latest SD data	1 byte	2
17	Sixth latest SD subcategory data	1 byte	5
18	Data from the hour meter for the sixth latest SD	8 byte	000000451
19	Seventh latest SD data	1 byte	0
20	Seventh latest SD subcategory data	1 byte	0
21	Data from the hour meter for the seventh latest SD	8 byte	00000000
22	Eighth latest SD data	1 byte	0
23	Eighth latest SD subcategory data	1 byte	0
24	Data from the hour meter for the eighth latest SD	8 byte	00000000
CS		2 Byte	7D

• SD data	
0	No SD
1	SQ_LSI
2	MDU-IIC
3	RST2
4	TEMP

• SD subcategory (SQ_LSI)	
0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (M/S)

• SD subcategory (MDU-IIC)	
0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC1
4	DAC2

• SD subcategory (TEMP)	
0	No SD-Sub data
1	TEMP1 (high temperature)
2	TEMP1 (low temperature)

9.3.9 QSE (DESTINATION PECULIAR INFORMATION)

Induce it peculiar, individual information is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QSE]	Every time	Output of status	

Order	Part	Data Arrangement	Data Length	Output Example
0	–	Received Command name	3 byte	QSE
1		Reserved	4 byte	****
2		DTV Hardware Version	4 byte	0345
3		USER PASSWORD	4 byte	1234
4	–	Check Sum	2 byte	03

9.3.10 QMT (TEMPERATURE / FAN ROTATION / ROOM LIGHT SENSOR)

Temperature information (TEMP2) / FAN rotation state / Room light sensor information on the MTB side is returned.

Command Format	Effective Operation Modes	Function	Remarks
[QMT]	Every time	Output of status	A/D value of MTB-side's temperature/FAN rotating status

Order	Part	Data Arrangement	Data Length	Output Example
0	–	Received Command name	3 byte	QMT
1	MTB	A/D value of MTB-side temperature	3 byte	267
2		MTB-side FAN rotating speed (0: STOP, 1: LOW, 2: HIGH)	1 byte	1
3		A/D value of room light sensor	3 byte	009
4		Level of room light sensor (Value: 1 to 5)	1 byte	5

9.3.11 QNG (SHUTDOWN INFORMATION OF MTB)

MTB side's shutdown information is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QNG]	Every time	Output of status	

Order	Part	Data Arrangement	Data Length	Output Example
0	–	Received Command name	3 byte	QNG
1	MTB	1st latest NG No.	1 byte	0
2		Subcategory No. for the 1st latest NG.	1 byte	0
3		MTB hour meter for the 1st latest NG.	7 byte	0000000
4		Reserved	3 byte	Fixed on 000
5		2nd latest NG No.	1 byte	0
6		Subcategory No. for the 2nd latest NG.	1 byte	0
7		MTB hour meter for the 2nd latest NG.	7 byte	0000000
8		Reserved	3 byte	Fixed on 000
9		3rd latest NG No.	1 byte	0
10		Subcategory No. for the 3rd latest NG.	1 byte	0
11		MTB hour meter for the 3rd latest NG.	7 byte	0000000
12		Reserved	3 byte	Fixed on 000
:		:	:	
29		8th latest NG No.	1 byte	0
30		Subcategory No. for the 8th latest NG.	1 byte	0
31		MTB hour meter for the 8th latest NG.	7 byte	0000000
32		Reserved	3 byte	Fixed on 000
33	–	Check Sum	2 byte	00

< SD Information No. >

Frequency *	Part	Part	Remarks (Operation)
5	MTB part	Shutdown signal from audio amp. / short-circuit of speaker terminal	Shutdown after 30 seconds warning
6		Failure of communication with Module microcomputer	Immediately Shutdown
7		3-wire serial communication of Main microcomputer	Go to No. 7 Subcategory Information
8		IIC communication failure of MTB side	Go to No. 8 Subcategory Information
9		Communication failure of Main microcomputer	Immediately Shutdown
10(A)		Failure of FAN	Go to No. 10 Subcategory Information
11(B)		Abnormally in high temperature	Shutdown after 30 seconds warning
12(C)		Failure of Digital Tuner	Go to No. 12 Subcategory Information
13(D)		Failure of Power Supply at MTB side	Go to No. 13 Subcategory Information
15(F)		Failure of Main EEPROM	Immediately Shutdown

*: Indicates the frequency of Blue LED flashing when the shutdown is occurred.

< No. 7 Subcategory Information on "Failure in 3-wire serial communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
1	Communication error of IF microcomputer	Shutdown
2	Communication error of sequence processor	Shutdown

< No. 8 Subcategory Information on "Failure in IIC communication of MTB side" >

Value	Shutdown Factor	Remarks (Operation)
1	Tuner 1	Shutdown
2	MSP/MAP	Shutdown
3	AV Switch	Shutdown
4	RGB Switch	Shutdown
5	VDEC	Shutdown
6	VDEC-SDRAM	Shutdown
7	AD/PLL	Shutdown
8	HDMI	Shutdown
D	COFDEM	Shutdown

< No. 10 Subcategory Information on "Abnormally in FAN" >

Value	Shutdown Factor	Remarks (Operation)
1	FAN 1	Shutdown
2	FAN 2 (FHD only)	Shutdown

< No. 12 Subcategory Information on "Failure in Digital Tuner" >

Value	Shutdown Factor	Remarks (Operation)
1	DTV starting failure	Communication stop
2	DTV Antenna	Warning indication

< No. 13 Subcategory Information on "Failure in Power supply at MTB side" >

Value	Shutdown Factor	Remarks (Operation)
1	RST 2	Shutdown
2	RST 4	Shutdown

9.3.12 QSI (INPUT SIGNAL DATA)

The command QSI is for acquiring all data on input video signals.

Command Format	Effective Operation Modes	Function	Remarks
[QSI]	All operations	To acquire all data on input video signals	Return data: 3 (ECO) + 66 (DATA) + 2 (CS) = 71 Byte

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QSI
1	Type of drive sequence	3 Byte	60V
2	Standard/nonstandard	1 Byte	S
3	Type of ABL/WB tables	2 Byte	T1
4	Total value of PCN	4 Byte	0256
5	Total value of PRH	4 Byte	0256
6	Total value of PGH	4 Byte	0256
7	Total value of PBH	4 Byte	0256
8	Total value of PBR	4 Byte	0512
9	Total value of PRL	4 Byte	0512
10	Total value of PGL	4 Byte	0512
11	Total value of PBL	4 Byte	0512
12	Total value of ABL	3 Byte	128
13	Detection of V frequency	4 Byte	6002
14	Reserved	1 Byte	*
15	Reserved	3 Byte	***
16	Obtained APL data	4 Byte	1023
17	Number of SUS pulses	4 Byte	0457
18	Result of detection of still picture	1 Byte	1
19	Result of detection of cracking in the panel	1 Byte	1
20	Result of detection for scanning protection	1 Byte	1
21	Result of detection for external protection	1 Byte	1
22	Transition of protection operation	1 Byte	0
23	Reserved	4 Byte	****
CS		2 Byte	27

9.3.13 DRV (PANEL DRIVE-POWER ON / OFF)

Drive ON/OFF: ON/OFF control of panel drive-power system

Command Format	Effective Operation Modes	Function	Remarks
[DRV+S00]	Every time	DRIVE OFF	At standby mode, when 10 seconds passed after issuing [DRV+S00], command becomes invalid.
[DRV+S01]	Every time	DRIVE ON (default)	

Once the DRIVE OFF command is accepted, DRIVE OFF cannot be canceled by pressing the DRIVE OFF key again or by turning the unit off then back on with the STANDBY OFF/ON key.
To cancel DRIVE OFF, restart the unit by unplugging then again plugging in the power cord.

9.3.14 FAY / FAN (ADJ. COMMANDS PERMISSION / PROHIBITION)

The commands FAY/FAN are for prohibiting/permitting panel/MTB-adjustment commands.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAY]	Normal operation mode while the power is on	Adjustment command is valid.	For details, refer to the section “6.1.3 FUNCTIONS WHEN RNTERING THE SERVICE FACTORY MODE.”
[FAN]	During FAY	Adjustment command is invalid.	

9.3.15 FAJ / UAJ / CBU / BCP (BACKUP FUNCTION FOR ADJUSTMENT VALUE)

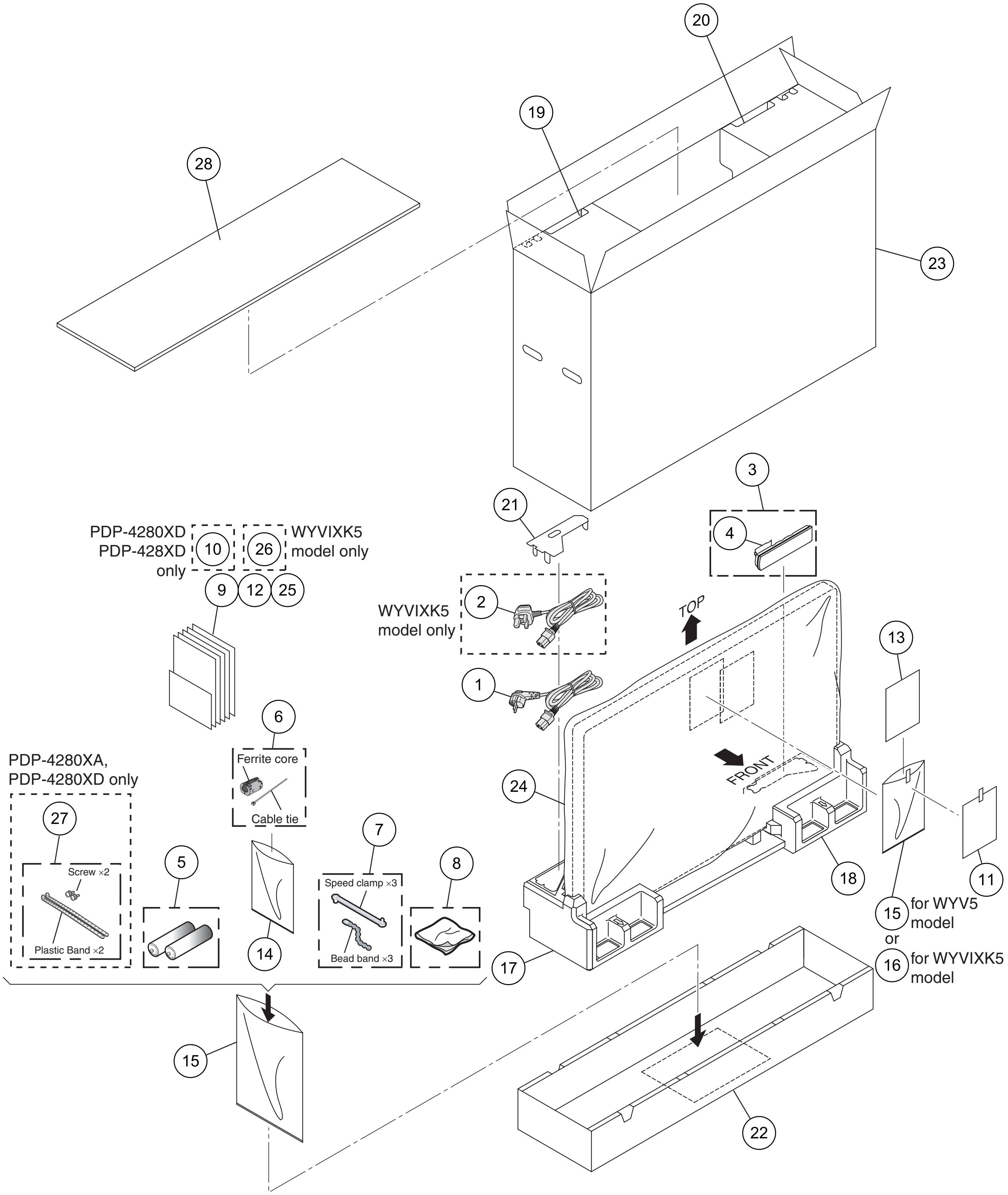
When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

Command Format	Operation			Remarks
	Effective Operation Modes	Control		
[FAJ]	During FAY	To make the flag setting that indicating that adjustment of the panel unit has been completed	Writing 00 to the 4 k byte ROM and copying to the 2 k byte ROM	This takes at least 350 mS.
[UAJ]		To make the flag setting that indicating that adjustment of the main unit has not been completed	Writing F0 to the 4 k byte ROM	
[CBU]		To make the flag setting that indicating that backup data have not been copied	Writing F0 to the 2 k byte ROM	The backup ROM is initialized.
[BCP]		To copy Digital backup data to EEPROM	Copying backup data	

10. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

10.1 PACKING SECTION



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PDP-4280XD
PDP-428XD
only
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26
WYVIXK5
model only
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WYVIXK5
model only
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TOP
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1
6
Ferrite core
Cable tie
PDP-4280XA,
PDP-4280XD only
FRONT
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27
Screw ×2
Plastic Band ×2
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Speed clamp ×3
Bead band ×3
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for WYV5
model
or
16
for WYVIXK5
model
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(1) PACKING SECTION PARTS LIST

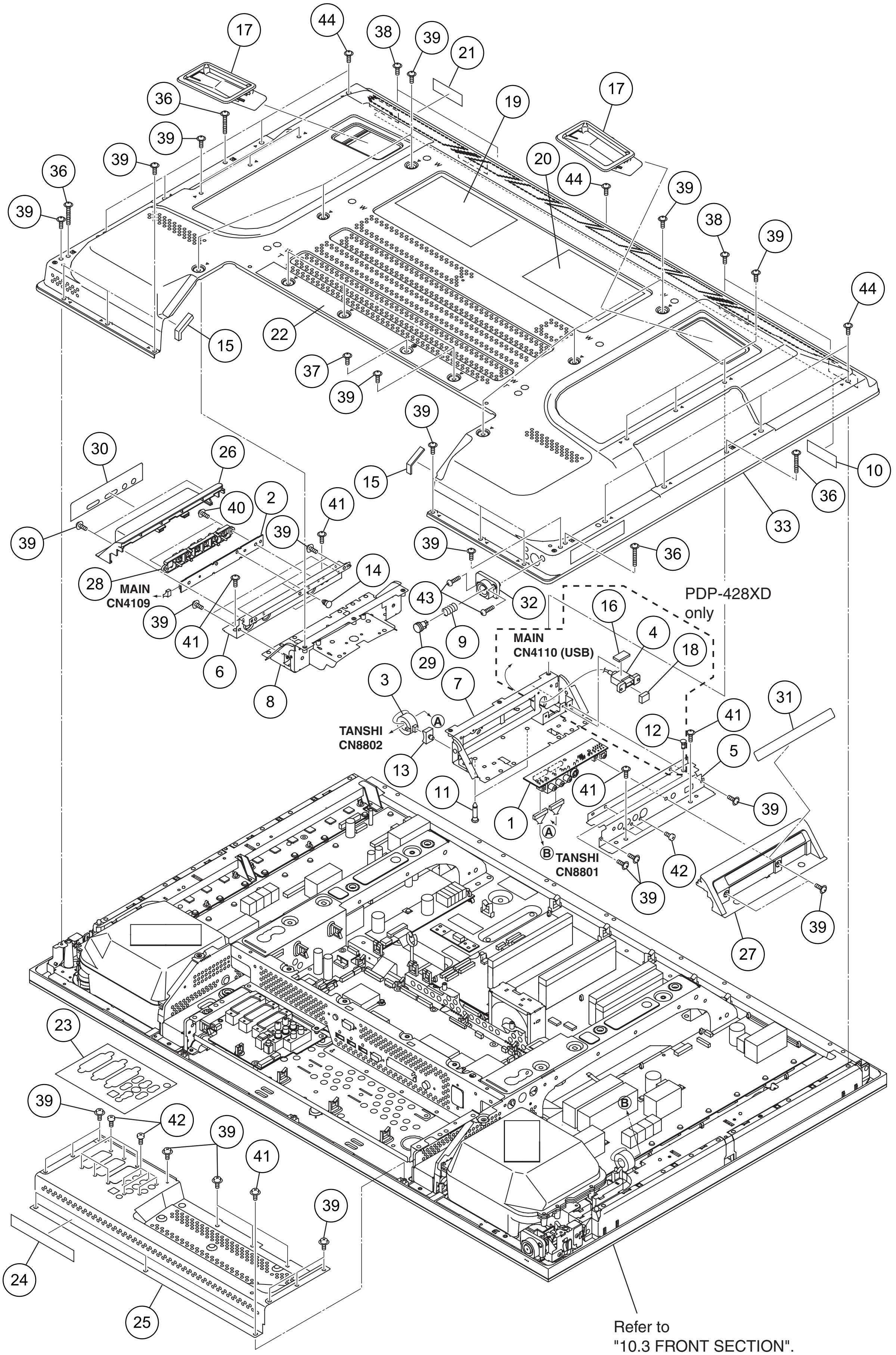
Mark	No.	Description	Part No.
⚠	1	Power Cord (2 m)	ADG1214
⚠	2	Power Cord (2 m)	See Contrast table (2)
	3	Remote Control Unit	See Contrast table (2)
	4	Battery Cover	See Contrast table (2)
NSP	5	Dry Cell Battery (R06, AA)	VEM1031
⚠	6	Ferrite Core (L5321)	ATX1039
	7	Binder Assy	AEC1908
	8	Cleaning Cloth	AED1285
	9	Operating Instructions (English, French, German)	See Contrast table (2)
	10	Operating Instructions (Italian, Spanish, Dutch)	See Contrast table (2)
	11	Caution Card	See Contrast table (2)
	12	Cleaning Caution	See Contrast table (2)
NSP	13	Warranty Card	ARY1114
	14	Polyethylene Bag	AHG1337
NSP	15	Catalogue Bag	AHG1340
	16	Polyethylene Bag	See Contrast table (2)
	17	Pad (428 B-L)	See Contrast table (2)
	18	Pad (428 B-R)	See Contrast table (2)
	19	Pad (428 T-L)	See Contrast table (2)
	20	Pad (428 T-R)	See Contrast table (2)
	21	Power Cord Lid	See Contrast table (2)
	22	Under Carton	See Contrast table (2)
	23	Upper Carton	See Contrast table (2)
	24	Mirror Mat	See Contrast table (2)
	25	After Image Caution	See Contrast table (2)
	26	Block Diagram	See Contrast table (2)
	27	Band Assy	See Contrast table (2)
	28	Carton Board	See Contrast table (2)

(2) CONTRAST TABLE

PDP-4280XA/WYV5, WYVIXK5, PDP-4280XD/WYV5, WYVIXK5, PDP-428XD/WYV5 and WYVIXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-4280XA /WYV5	PDP-4280XA /WYVIXK5	PDP-4280XD /WYV5	PDP-4280XD /WYVIXK5	PDP-428XD /WYV5	PDP-428XD /WYVIXK5
⚠	2	Power Cord (2 m)	Not used	ADG1223	Not used	ADG1223	Not used	ADG1223
	3	Remote Control Unit	AXD1553	AXD1553	AXD1552	AXD1552	AXD1551	AXD1551
	4	Battery Cover	AZA7424	AZA7424	AZA7424	AZA7424	AZN2626	AZN2626
	9	Operating Instructions (English, French, German)	ARE1478	ARE1477	ARE1485	ARE1476	ARE1484	ARE1475
	10	Operating Instructions (Italian, Spanish, Dutch)	Not used	Not used	ARC1602	ARC1587	ARC1601	ARC1586
	11	Caution Card	ARM1232	ARM1310	ARM1232	ARM1310	ARM1232	ARM1310
	12	Cleaning Caution	ARM1283	ARM1311	ARM1283	ARM1311	ARM1283	ARM1311
	16	Polyethylene Bag	Not used	AHG1326	Not used	AHG1326	Not used	AHG1326
	17	Pad (B-L)	AHA2668	AHA2600	AHA2668	AHA2600	AHA2668	AHA2600
	18	Pad (B-R)	AHA2669	AHA2601	AHA2669	AHA2601	AHA2669	AHA2601
	19	Pad (T-L)	AHA2670	AHA2554	AHA2670	AHA2554	AHA2670	AHA2554
	20	Pad (T-R)	AHA2671	AHA2555	AHA2671	AHA2555	AHA2671	AHA2555
	21	Power Cord Lid	AHC1085	AHC1087	AHC1085	AHC1087	AHC1085	AHC1087
	22	Under Carton (428)	AHD3586	Not used	AHD3586	Not used	AHD3586	Not used
	22	Under Carton (427)	Not used	AHD3496	Not used	AHD3496	Not used	AHD3496
	23	Upper Carton (4280XA)	AHD3595	AHD3618	Not used	Not used	Not used	Not used
	23	Upper Carton (4280XD)	Not used	Not used	AHD3643	AHD3594	Not used	Not used
	23	Upper Carton (428XD)	Not used	Not used	Not used	Not used	AHD3647	AHD3593
	24	Mirror Mat	AHG1284	AHG1327	AHG1284	AHG1327	AHG1284	AHG1327
	25	After Image Caution	ARM1350	ARM1349	ARM1350	ARM1349	ARM1350	ARM1349
	26	Block Diagram	Not used	ARY1202	Not used	ARY1202	Not used	ARY1202
	27	Band Assy	AXY1192	AXY1192	AXY1192	AXY1192	Not used	Not used
	28	Carton Board	AHB1297	Not used	AHB1297	Not used	AHB1297	Not used

10.2 REAR SECTION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CN4110 (USB)
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TANSHI
CN8801
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Refer to
"10.3 FRONT SECTION".

(1) REAR SECTION PARTS LIST

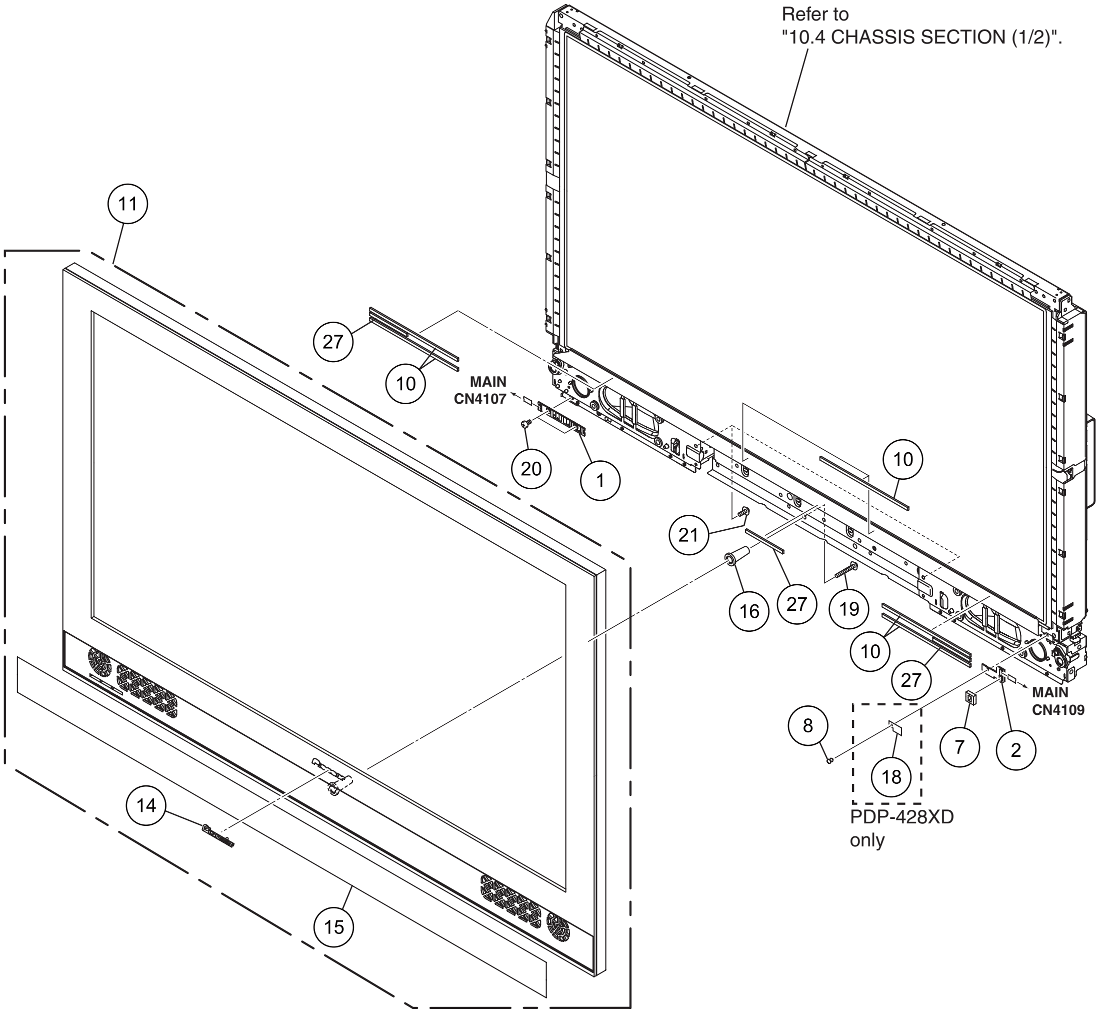
Mark	No.	Description	Part No.
	1	SIDE IO Assy	AWW1253
	2	SIDE KEY Assy	AWW1286
	3	Ferrite Core (F10)	ATX1060
	4	USB Cable (J301)	See Contrast table (2)
	5	Side Input Panel	See Contrast table (2)
	6	Function Button Base	See Contrast table (2)
	7	Side Input Shield	See Contrast table (2)
	8	Function Button Shield	See Contrast table (2)
	9	Coil Spring	ABH1125
	10	Rear Case Cushion	AEB1439
	11	Spacer	AEC1288
	12	PCB Spacer	See Contrast table (2)
	13	Ferrite Core Holder	AEC1818
	14	Locking Card Spacer	AEC2019
	15	Protect Sheet C	AED1300
	16	USB Spacer A	See Contrast table (2)
	17	Inner Grip Assy	See Contrast table (2)
⚠	18	Gasket (USB)	See Contrast table (2)
NSP	19	Name Label	See Contrast table (2)
	20	Bolt Caution Label (E)	AAX3533
	21	Serial Sheet	AAX3143
	22	Label A	See Contrast table (2)
	23	Label B	See Contrast table (2)
	24	Label C	See Contrast table (2)
	25	Terminal Panel B	See Contrast table (2)
	26	Function Button Panel	AMB2906
	27	Side Input Cover	AMB2911
	28	Function Button (E)	AAC1565
	29	Power Button	AAD4145
	30	Function Button Sheet (E)	AAK2896
	31	Input Cover Label	See Contrast table (2)
	32	Power Button Holder	AMR3539
	33	Rear Case (428)	ANE1667
	34	•••••	
	35	•••••	
	36	Screw (3 x 40P)	ABA1332
	37	Screw	ABA1341
	38	Screw (4 x 18)	BBZ40P160FTB
	39	Screw	AMZ30P060FTB
	40	Screw	AMZ30P080FTC
	41	Screw	APZ30P080FTB
	42	Screw	BPZ30P080FTB
	43	Screw	BPZ30P140FTB
	44	Screw	TBZ40P080FTB

(2) CONTRAST TABLE

PDP-4280XA/WYV5, WYVIXK5, PDP-4280XD/WYV5, WYVIXK5, PDP-428XD/WYV5 and WYVIXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-4280XA /WYV5	PDP-4280XA /WYVIXK5	PDP-4280XD /WYV5	PDP-4280XD /WYVIXK5	PDP-428XD /WYV5	PDP-428XD /WYVIXK5
	4	USB Cable (J301)	Not used	Not used	Not used	Not used	ADF1033	ADF1033
	5	Side Input Panel (8E)	ANC2461	ANC2458	ANC2461	ANC2458	Not used	Not used
	5	Side Input Panel (8ES)	Not used	Not used	Not used	Not used	ANC2460	ANC2459
	6	Function Button Base	ANG2923	ANG3066	ANG2923	ANG3066	ANG2923	ANG3066
	7	Side Input Shield	ANK1834	ANK1938	ANK1834	ANK1938	ANK1834	ANK1938
	8	Function Button Shield	ANK1835	ANK1939	ANK1835	ANK1939	ANK1835	ANK1939
	12	PCB Spacer	Not used	Not used	Not used	Not used	AEC1570	AEC1570
	16	USB Spacer A	Not used	Not used	Not used	Not used	AED1317	AED1317
	17	Inner Grip Assy	AMR3434	AMR3693	AMR3434	AMR3693	AMR3434	AMR3693
⚠	18	Gasket (USB)	Not used	Not used	Not used	Not used	ANK1846	ANK1846
NSP	19	Name Label (4280XA)	AAL2937	AAL2943	Not used	Not used	Not used	Not used
NSP	19	Name Label (4280XD)	Not used	Not used	AAL3002	AAL2939	Not used	Not used
NSP	19	Name Label (428XD)	Not used	Not used	Not used	Not used	AAL3006	AAL2941
	22	Label A (EA)	AAX3479	AAX3479	Not used	Not used	Not used	Not used
	22	Label A (ED)	Not used	Not used	AAX3480	AAX3480	AAX3480	AAX3480
	23	Label B (ERA)	AAX3536	AAX3536	Not used	Not used	Not used	Not used
	23	Label B (ERD)	Not used	Not used	AAX3537	AAX3537	Not used	Not used
	23	Label B (ESD)	Not used	Not used	Not used	Not used	AAX3538	AAX3538
	24	Label C (ERA)	AAX3502	AAX3502	Not used	Not used	Not used	Not used
	24	Label C (ERD)	Not used	Not used	AAX3503	AAX3503	Not used	Not used
	24	Label C (ESD)	Not used	Not used	Not used	Not used	AAX3504	AAX3504
	25	Terminal Panel B (42ER)	ANC2448	ANC2448	ANC2448	ANC2448	Not used	Not used
	25	Terminal Panel B (42ES)	Not used	Not used	Not used	Not used	ANC2449	ANC2449
	31	Input Cover Label E	AAX3375	AAX3396	AAX3375	AAX3396	Not used	Not used
	31	Input Cover Label 8ES	Not used	Not used	Not used	Not used	AAX3510	AAX3510

10.3 FRONT SECTION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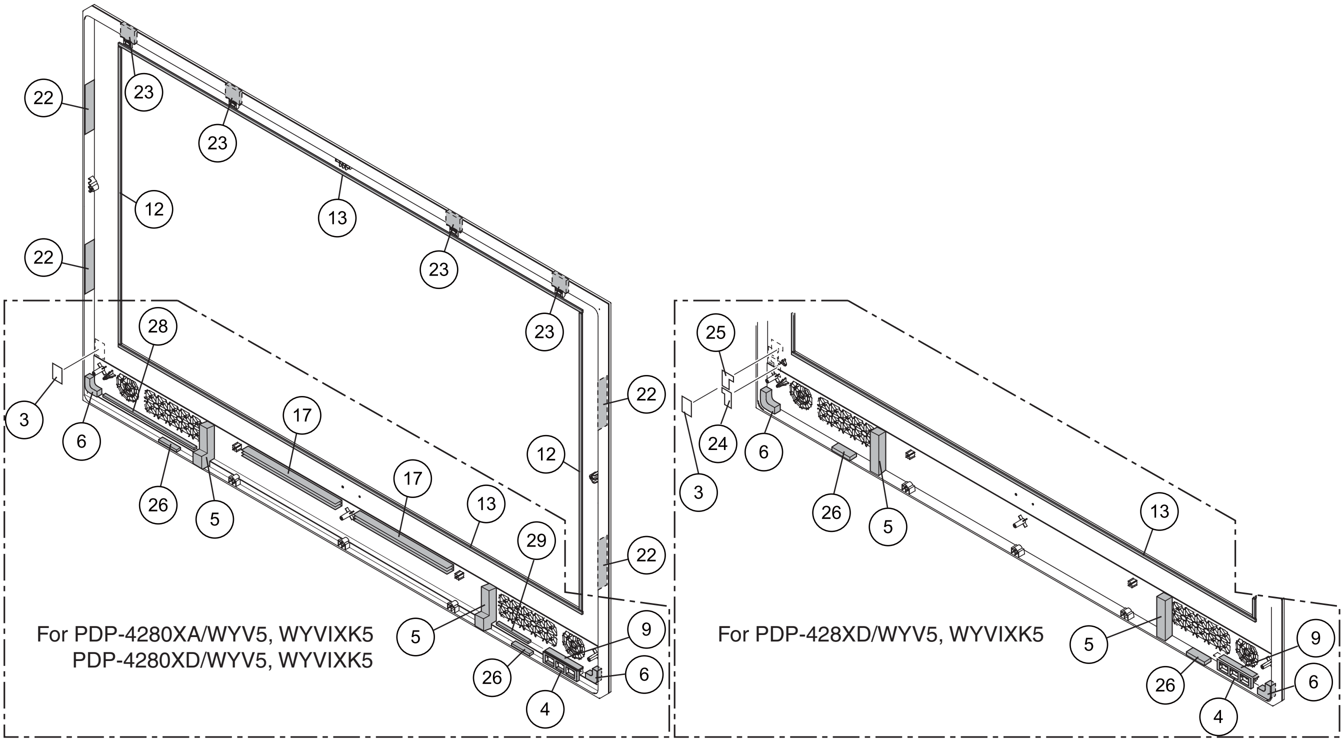
Refer to "10.4 CHASSIS SECTION (1/2)".

PDP-428XD only

Rear view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For PDP-4280XA/WYV5, WYVIXK5
PDP-4280XD/WYV5, WYVIXK5

For PDP-428XD/WYV5, WYVIXK5

(1) FRONT SECTION PARTS LIST

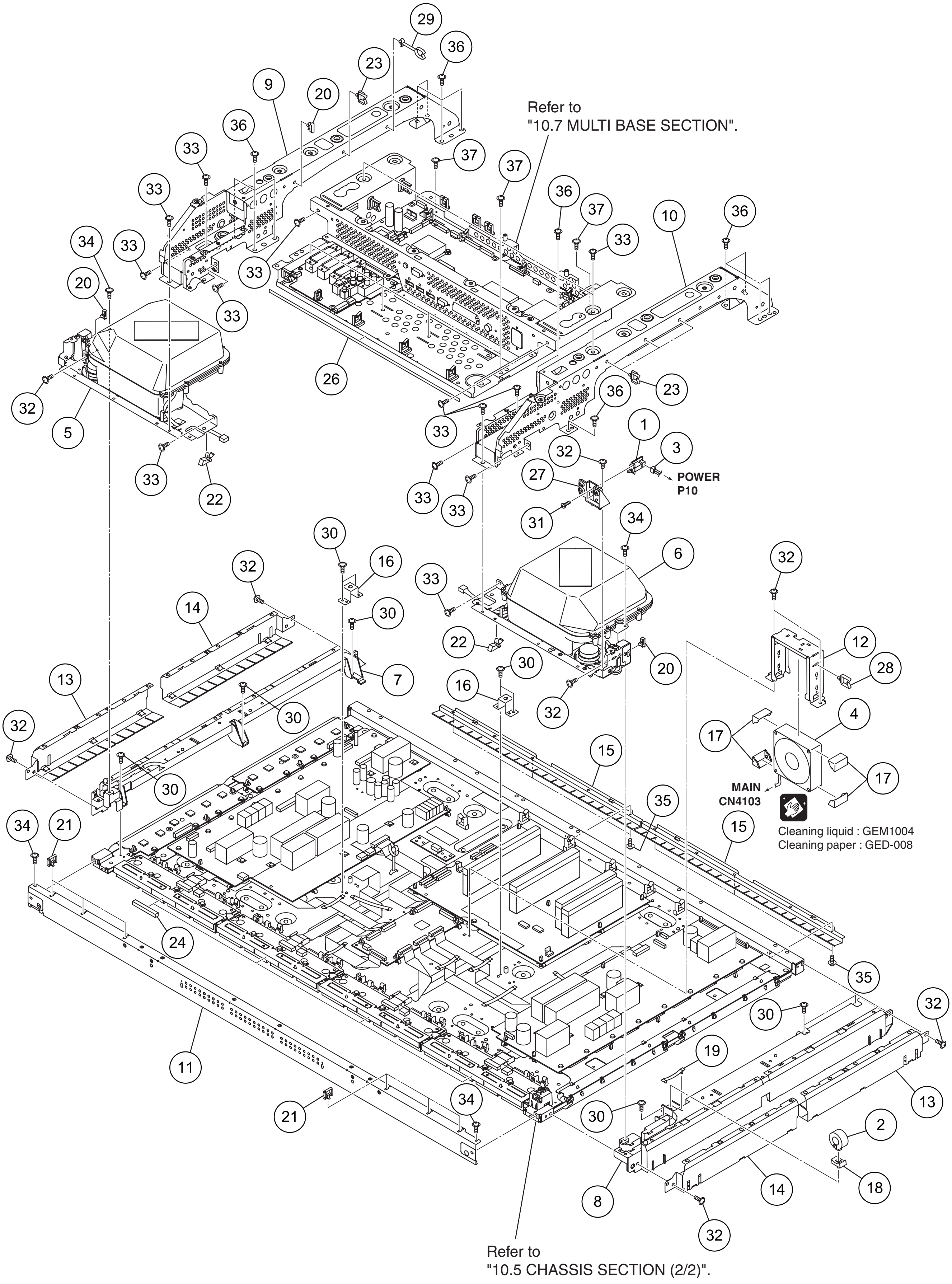
Mark	No.	Description	Part No.
	1	42/60LED Assy	AWW1276
	2	42IR Assy	See Contrast table (2)
	3	IR Reducer	See Contrast table (2)
	4	Blind Cushion 427HX	AEB1443
	5	Speaker Cushion	AEB1452
	6	Speaker Cushion S	AEB1460
	7	IR Block Cushion	AEB1465
	8	Nylon Rivet	AEC1671
	9	Insulation Sheet B	AED1284
	10	Isolation Sheet	AED1289
	11	Front Case Assy	See Contrast table (2)
NSP	12	Panel Cushion V (42)	AED1323
NSP	13	Panel Cushion H (42)	AED1322
	14	Pioneer Name Plate (42)	AAM1115
	15	Punching Sheet	See Contrast table (2)
	16	Front Collar	AMR3695
	17	Frame	See Contrast table (2)
	18	Sensor Filter	See Contrast table (2)
	19	Screw (3 x 30P)	ABA1350
	20	Screw (M3 x 4)	ABA1354
	21	Screw	APZ30P080FTB
	22	Insulation Sheet A	AED1283
	23	Front Cushion (42)	AEB1484
	24	Sensor Cushion A (428)	See Contrast table (2)
	25	Sensor Cushion B (428)	See Contrast table (2)
	26	Front Case Cushion	See Contrast table (2)
	27	Isolation Cushion B	AED1326
	28	Insulation Sheet	See Contrast table (2)
	29	Insulation Sheet B	See Contrast table (2)

(2) CONTRAST TABLE

PDP-4280XA/WYV5, WYVIXK5, PDP-4280XD/WYV5, WYVIXK5, PDP-428XD/WYV5 and WYVIXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-4280XA /WYV5	PDP-4280XA /WYVIXK5	PDP-4280XD /WYV5	PDP-4280XD /WYVIXK5	PDP-428XD /WYV5	PDP-428XD /WYVIXK5
	2	42IR Assy	AWW1282	AWW1282	AWW1282	AWW1282	Not used	Not used
	2	42RLS&IR Assy	Not used	Not used	Not used	Not used	AWW1277	AWW1277
	3	IR Reducer	AAX3455	AAX3455	AAX3455	AAX3455	Not used	Not used
	3	IR Sheet B (428)	Not used	Not used	Not used	Not used	AAX3551	AAX3551
	11	Front Case Assy (4280XA)	AMB3021	AMB3052	Not used	Not used	Not used	Not used
	11	Front Case Assy (4280XD)	Not used	Not used	AMB3020	AMB3051	Not used	Not used
	11	Front Case Assy (428XD)	Not used	Not used	Not used	Not used	AMB3016	AMB3022
	15	Punching Sheet (42)	AAS1014	AAS1014	AAS1014	AAS1014	Not used	Not used
	15	Punching Sheet (428)	Not used	Not used	Not used	Not used	AAS1016	AAS1016
	17	Frame	AMR3620	AMR3620	AMR3620	AMR3620	Not used	Not used
	18	Sensor Filter	Not used	Not used	Not used	Not used	AAK2926	AAK2926
	24	Sensor Cushion A (428)	Not used	Not used	Not used	Not used	AEB1485	AEB1485
	25	Sensor Cushion B (428)	Not used	Not used	Not used	Not used	AEB1486	AEB1486
	26	Front Case Cushion (42B)	AEB1462	AEB1462	AEB1462	AEB1462	Not used	Not used
	26	Front Case Cushion (428)	Not used	Not used	Not used	Not used	AEB1488	AEB1488
	28	Insulation Sheet	AED1289	AED1289	AED1289	AED1289	Not used	Not used
	29	Insulation Sheet B	AED1284	AED1284	AED1284	AED1284	Not used	Not used

10.4 CHASSIS SECTION (1/2)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Cleaning liquid : GEM1004
Cleaning paper : GED-008
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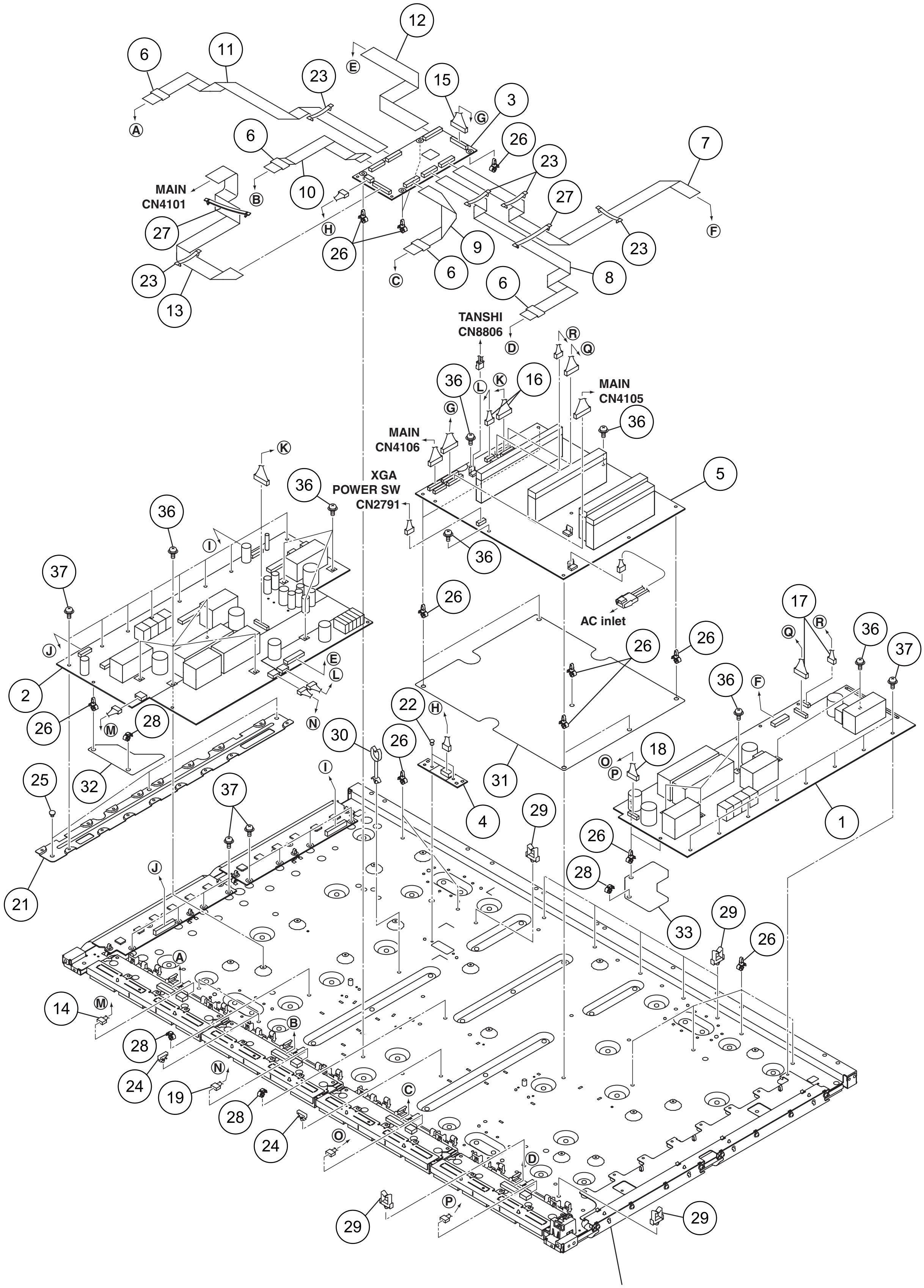
Refer to "10.7 MULTI BASE SECTION".

Refer to "10.5 CHASSIS SECTION (2/2)".

CHASSIS SECTION (1/2) PARTS LIST

Mark	No.	Description	Part No.
	1	XGA POWER SW Assy	AWW1261
	2	Ferrite Core (L1)	ATX1044
	3	Housing Wire (J103)	ADX3536
⚠	4	Fan Motor 80 x 25L	AXM1057
	5	Speaker Box Assy L	AMW1012
	6	Speaker Box Assy R	AMW1013
	7	Front Chassis VL (427)	AMA1020
	8	Front Chassis VR (427)	AMA1021
	9	Sub Frame Assy L (427)	ANA1943
	10	Sub Frame Assy R (427)	ANA1944
	11	Front Chassis H Assy	ANA2047
	12	Fan Holder	ANG2833
⚠	13	Panel Holder V1 (427)	ANG2920
⚠	14	Panel Holder V2 (427)	ANG2921
⚠	15	Panel Holder H (427)	ANG2922
	16	Multi Base Holder	ANG2937
	17	Floating Rubber 80	AEB1427
	18	Ferrite Core Holder	AEC1818
	19	Flat Clamp	AEC1879
	20	Locking Wire Saddle	AEC1948
	21	Mini Clamp	AEC2128
	22	Re-use Wire Saddle	AEC2091
	23	Re-use Wire Saddle	AEC2118
⚠	24	Address Gasket (42)	ANK1877
	25	• • • • •	
⚠	26	Gasket D	ANK1840
	27	Switch Holder (428)	AMR3694
	28	Re-use Wire Saddle	AEC1945
	29	Re-use HL 28	AEC2119
	30	Screw	ABA1351
	31	Screw	ABA1370
	32	Screw	ABZ30P080FTC
	33	Screw	AMZ30P060FTB
	34	Screw	APZ30P080FTB
	35	Screw	BBZ30P060FTC
	36	Screw	TBZ40P080FTB
	37	Screw	ABA1364

10.5 CHASSIS SECTION (2/2)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TANSHI CN8806
MAIN CN4105
MAIN CN4106
XGA POWER SW CN2791
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Refer to
"10.6 PANEL CHASSIS SECTION".

CHASSIS SECTION (2/2) PARTS LIST

Mark	No.	Description	Part No.
	1	42 X DRIVE Assy	AWV2452
	2	42 Y DRIVE Assy	AWW1262
	3	42 DIGITAL Assy	AWW1271
	4	SENSOR Assy	AWW1272
⚠	5	POWER SUPPLY Unit	AXY1157
	6	Ferrite Core (F1 - F4)	ATX1048
	7	Flexible Cable (J201)	ADD1483
	8	Flexible Cable (J202)	ADD1484
	9	Flexible Cable (J203)	ADD1485
	10	Flexible Cable (J204)	ADD1486
	11	Flexible Cable (J205)	ADD1487
	12	Flexible Cable (J206)	ADD1488
	13	Flexible Cable (J211)	ADD1489
	14	4P Housing Wire (J110)	ADX3327
	15	14P&5P Housing Wire (J104)	ADX3522
	16	9P&6/5P Housing Wire (J101)	ADX3534
	17	8P&5P Housing Wire (J102)	ADX3535
	18	8P/4P Housing Wire (J108)	ADX3537
	19	4P Housing Wire (J109)	ADX3538
	20	• • • • •	
	21	Conductive Plate Y (428)	ANG3082
	22	Nylon Rivet	AEC1671
	23	Flat Clamp	AEC1879
	24	Locking Wire Saddle	AEC1948
	25	Card Spacer	AEC1957
	26	PCB Spacer (Re-use)	AEC2087
	27	Flat Clamp 60	AEC2104
	28	Re-use Card Spacer	AEC2117
	29	Re-use Wire Saddle	AEC2118
	30	Re-use HL 28	AEC2119
⚠	31	Power Sheet (8G)	AMR3708
⚠	32	Y Drive Sheet (428)	AMR3709
⚠	33	X Drive Sheet (428)	AMR3710
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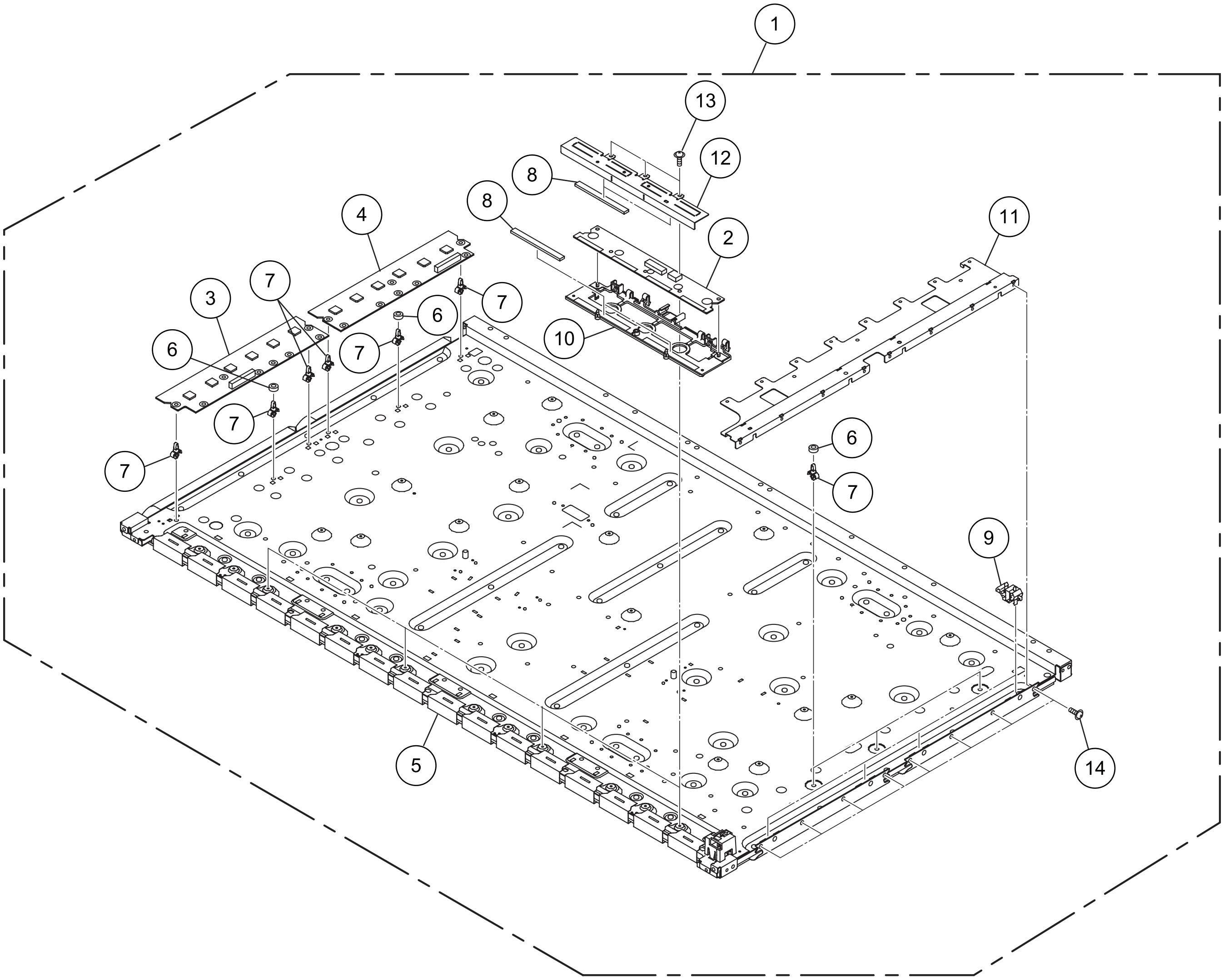
	36	Screw	ABA1351
	37	Screw	ABA1364

10.6 PANEL CHASSIS SECTION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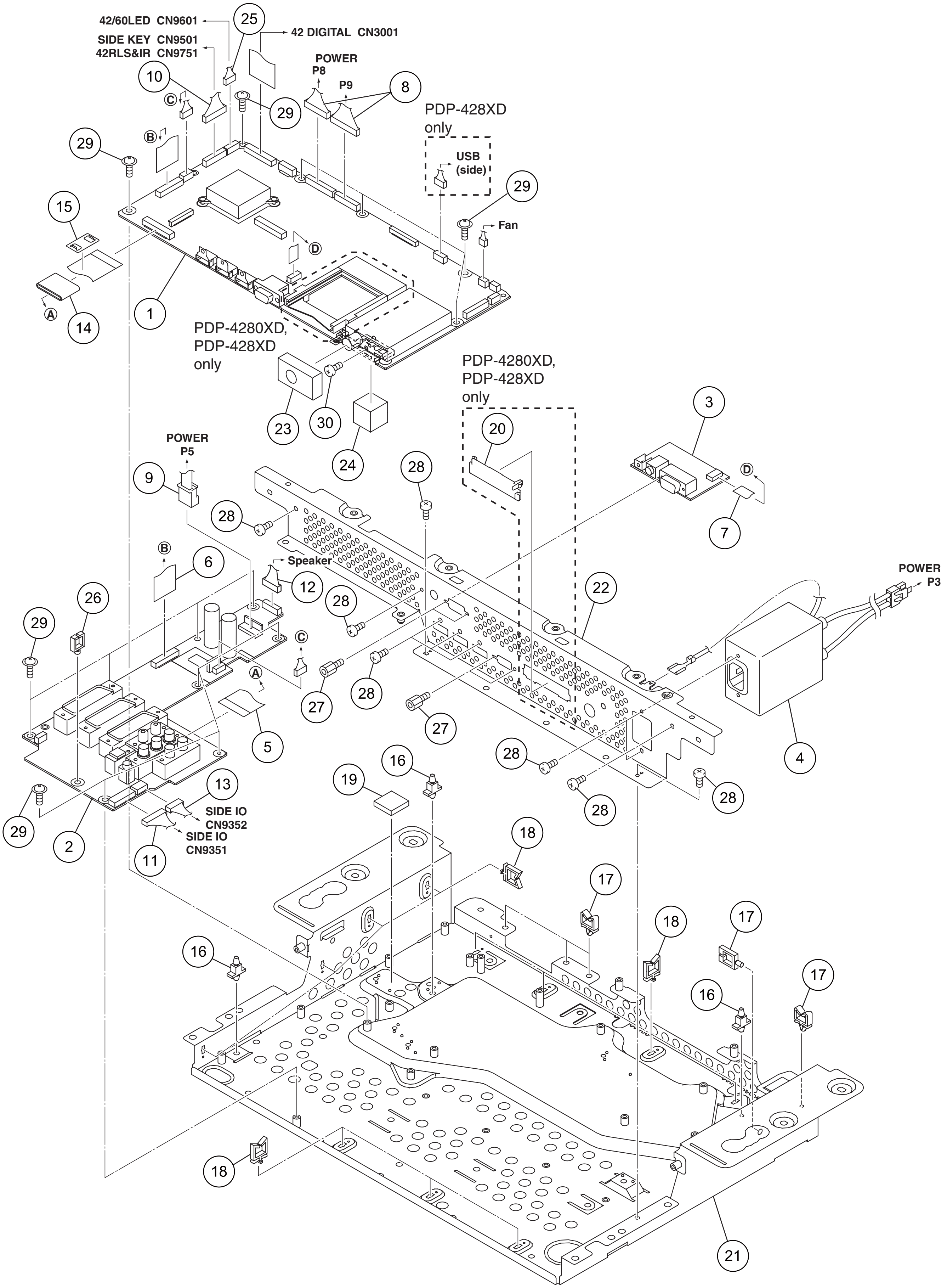
PANEL CHASSIS SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Panel Chassis (428) Assy	AWU1246
NSP	2	42 ADDRESS Assy	AWV2451
NSP	3	42 SCAN A Assy	AWW1266
NSP	4	42 SCAN B Assy	AWW1267
NSP	5	Plasma Panel (428) Assy	AWU1247
	6	Insulation Bushing 1.5	AEB1482
	7	PCB Spacer	AEC1941
	8	Address Silicone A	AEH1093
	9	Conductive Plate Holder	AMR3446
	10	Address Holder (428)	AMR3707
	11	Conductive Plate X (428)	ANG3080
	12	Address Plate (428)	ANG3084
	13	Screw	ABA1351
	14	Screw	ABA1364

10.7 MULTI BASE SECTION


42/60LED CN9601
SIDE KEY CN9501
42RLS&IR CN9751
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42 DIGITAL CN3001
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PDP-428XD
only
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USB
(side)
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Fan
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A
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PDP-4280XD,
PDP-428XD
only
PDP-4280XD,
PDP-428XD
only
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POWER
P5
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28
D
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Speaker
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POWER
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SIDE IO
CN9352
SIDE IO
CN9351
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(1) MULTI BASE SECTION PARTS LIST

Mark	No.	Description	Part No.
⚠	1	MAIN Assy	See Contrast table (2)
	2	TANSHI Assy	See Contrast table (2)
	3	232C Assy	AWW1254
⚠	4	AC Inlet (CN1)	AKP1316
	5	Flexible Cable (J212)	ADD1441
	6	Flexible Cable (J213)	ADD1491
	7	Flexible Cable (J217)	ADD1494
	8	12P&15P Housing Wire (J106)	ADX3523
	9	5P Housing Wire (J107)	ADX3524
	10	11/6/4P Housing Wire (J114)	ADX3539
	11	11P Housing Wire (J118)	ADX3541
	12	8P/4P Housing Wire (J119)	ADX3542
	13	5P Housing Wire (J125)	ADX3544
	14	Ferrite Core	ATX1064
	15	Ferrite Stopper	AEC1981
	16	Locking Card Spacer	AEC1429
	17	Wire Saddle	AEC1745
	18	Re-use Wire Saddle	AEC1945
	19	Silicone Sheet Audio	AEH1143
	20	POD Cover	See Contrast table (2)
	21	Multi Base Assy (J)	ANA2103
	22	Terminal Panel A	See Contrast table (2)
⚠	23	Gasket FE	ANK1945
	24	Gasket EC	ANK1954
	25	6P Housing Wire (J115)	ADX3540
	26	Harness Clip	AEC2130
	27	Hex. Head Screw	BBA1051
	28	Screw	BMZ30P060FTB
	29	Screw	PMB30P080FNI
	30	Screw (M3 x 4)	ABA1354

(2) CONTRAST TABLE

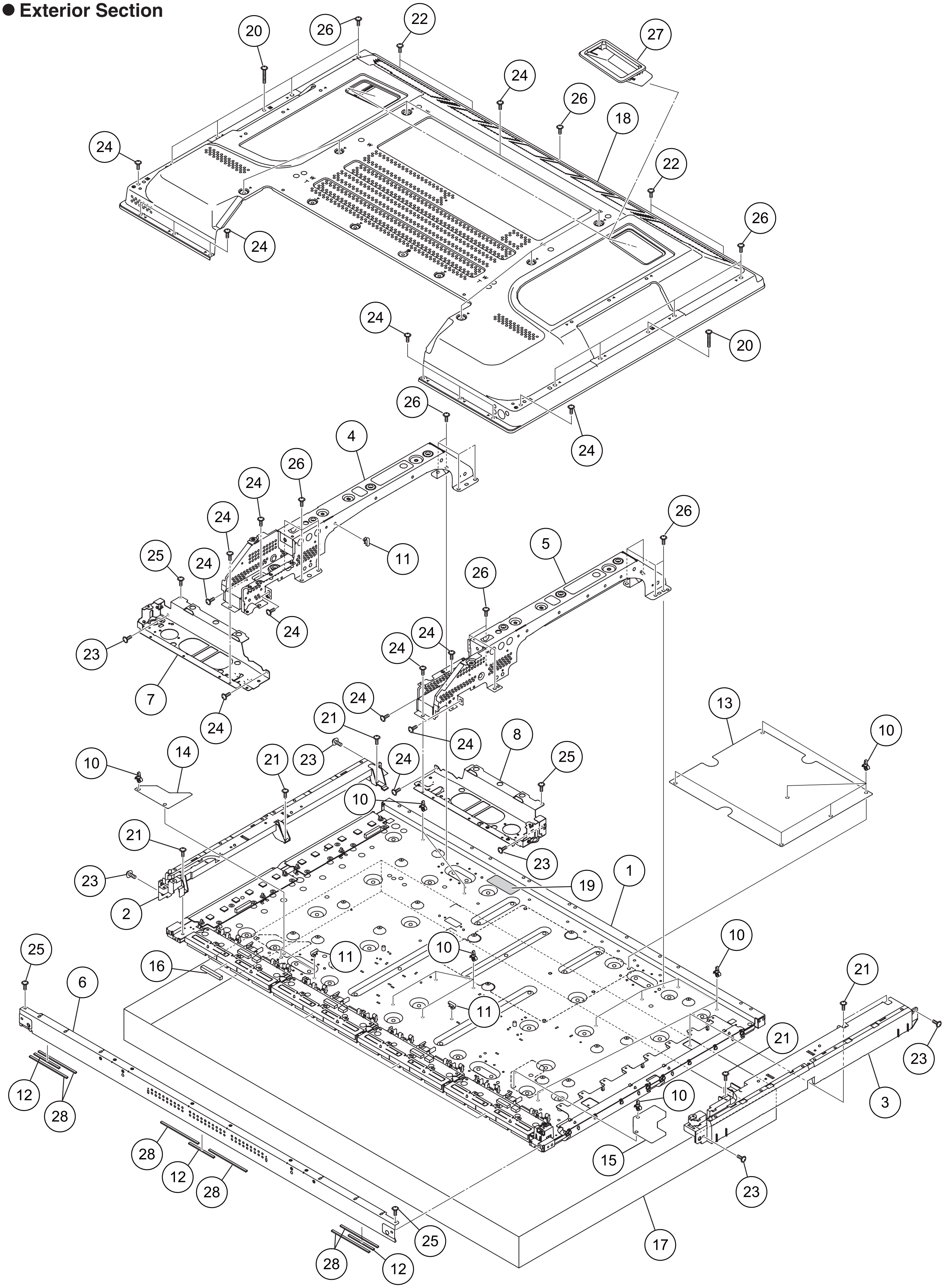
PDP-4280XA/WYV5, WYVIXK5, PDP-4280XD/WYV5, WYVIXK5, PDP-428XD/WYV5 and WYVIXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-4280XA /WYV5	PDP-4280XA /WYVIXK5	PDP-4280XD /WYV5	PDP-4280XD /WYVIXK5	PDP-428XD /WYV5	PDP-428XD /WYVIXK5
⚠	1	MAIN Assy	AWV2463	AWV2463	AWV2462	AWV2462	AWV2461	AWV2461
	2	TANSHI Assy	AWW1251	AWW1251	AWW1249	AWW1249	AWW1247	AWW1247
	20	POD Cover	Not used	Not used	AMR3542	AMR3542	AMR3542	AMR3542
	22	Terminal Panel A (EA)	ANC2442	ANC2442	Not used	Not used	Not used	Not used
	22	Terminal Panel A (ED)	Not used	Not used	ANC2441	ANC2441	ANC2441	ANC2441

10.8 PDP SERVICE ASSY 428

A

● Exterior Section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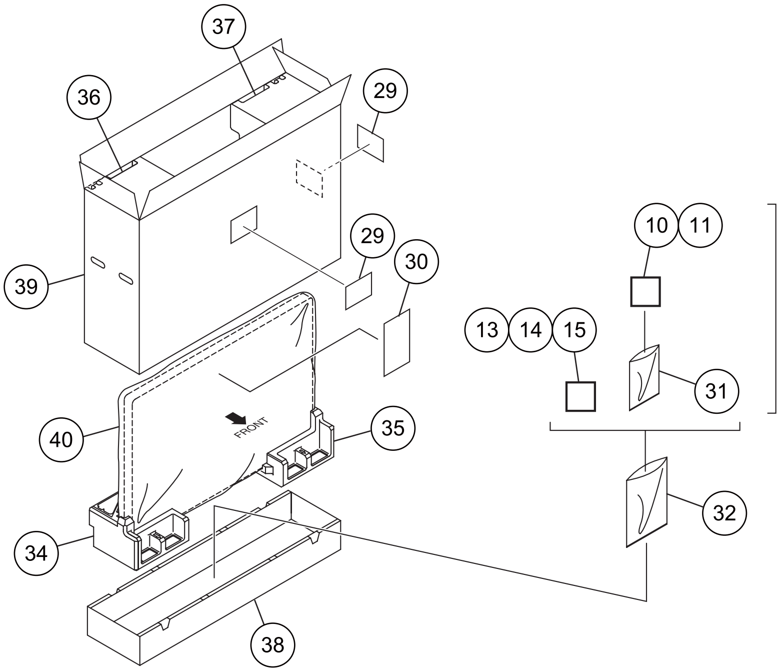
D

E

F

● Packing Section

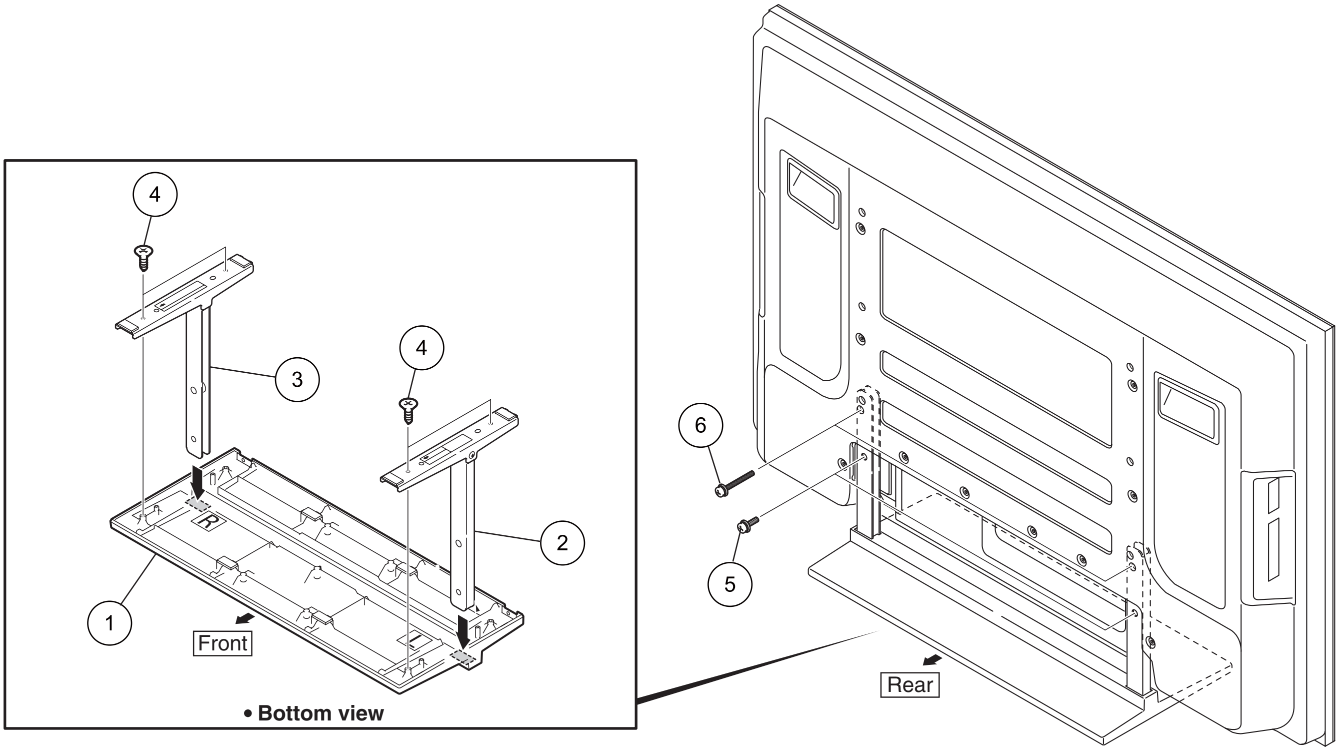


Refer to the "• Exterior Section"
for the mounting position.

PDP SERVICE ASSY 428 PARTS LIST

Mark	No.	Description	Part No.
NSP	1	Panel Chassis (428) Assy	AWU1246
	2	Front Chassis VL (427)	AMA1020
	3	Front Chassis VR (427)	AMA1021
	4	Sub Frame Assy L (427)	ANA1943
	5	Sub Frame Assy R (427)	ANA1944
	6	Front Chassis H Assy (427)	ANA2047
NSP	7	Speaker Stay L	AND1197
NSP	8	Speaker Stay R	AND1198
	9	• • • • •	
	10	PCB Spacer	AEC1941
	11	Locking Wire Saddle	AEC1948
	12	Isolation Cushion	AED1324
⚠	13	Power Sheet (8G)	AMR3708
⚠	14	Y Drive Sheet (428)	AMR3709
⚠	15	X Drive Sheet (428)	AMR3710
⚠	16	Address Gasket (42)	ANK1877
NSP	17	Front Case Assy (428 service)	AMB3058
	18	Rear Case (428)	ANE1667
NSP	19	Drive Voltage Label	ARW1097
	20	Screw (3 x 40P)	ABA1332
	21	Screw	ABA1351
	22	Screw (4 x 18)	ABA1353
	23	Screw	ABZ30P080FTC
	24	Screw	AMZ30P060FTB
	25	Screw	APZ30P080FTB
	26	Screw	TBZ40P080FTB
	27	Inner Grip Assy	AMR3434
	28	Isolation Sheet	AED1289
	29	Caution Label	AAX3031
	30	Caution Sheet (8G service)	ARM1369
	31	Polyethylene Bag S	AHG1338
NSP	32	Catalogue Bag	AHG1340
	33	• • • • •	
	34	Pad (428 B-L)	AHA2668
	35	Pad (428 B-R)	AHA2669
	36	Pad (428 T-L)	AHA2670
	37	Pad (428 T-R)	AHA2671
	38	Under Carton (428)	AHD3586
	39	Upper Carton (428 service)	AHD3641
	40	Protect Sheet	AHG1331

10.9 TABLE TOP STAND (PDP-4280XA and PDP-4280XD ONLY)



(1) TABLE TOP STAND PARTS LIST

Mark	No.	Description	Part No.
	1	Base Cover Assy	See Contrast table (2)
	2	Stand Pipe L Assy	See Contrast table (2)
	3	Stand Pipe R Assy	See Contrast table (2)
	4	Screw	ABA1357
	5	Screw (M8 x 23)	ABA1371
	6	Screw (M8 x 60)	ABA1372

(2) CONTRAST TABLE

PDP-4280XA/WYV5, WYVIXK5, PDP-4280XD/WYV5 and WYVIXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-4280XA /WYV5	PDP-4280XA /WYVIXK5	PDP-4280XD /WYV5	PDP-4280XD /WYVIXK5
	1	Base Cover Assy	AXY1195	AXY1174	AXY1195	AXY1174
	2	Stand Pipe L Assy	AXY1190	AXY1180	AXY1190	AXY1180
	3	Stand Pipe R Assy	AXY1191	AXY1181	AXY1191	AXY1181

Changed contents

Suffix	Applied Page or Title	Revision	Date
002	Coversheet	Deleted the description of the reference service manual.	June 22, 2007